

**NEWS  
BULLETIN**

**समाचार  
पत्रिका**



**NEPAL GEOLOGICAL SOCIETY**

**नेपाल भौगर्भिक समाज**

(स्थापना २०३७ साल, सन् १९८०)

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NEPAL**

# NEPAL GEOLOGICAL SOCIETY

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1994 - 96

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## Editorial

The Nepal Geological Society is pleased to bring out News Bulletin, Volume 12, as one of its regular publication.

The Society has made significance achievements during the past years winning the praise both from national and international community and attracting the attention of the planners and policy makers. To mention one of such event, 9th Himalaya-Karakorum-Tibet Workshop was organised in Kathmandu in the April of 1994, first time meeting of such kind in the Himalayan region. In pursuit to achieve and strengthen the objectives of the Society, the setting-up of several sub-committees is continued. In order to commemorate the 15th anniversary of the Society, scientific convention of national and international geoscientists working in the Himalayan Region is being planned under the First Nepal Geological Congress in Kathmandu. To contribute to the programme of natural disaster mitigation as per the proclamation of the decade of 1990's by the United Nations as the Decade of International Disaster Reduction (IDNDR), the Society carried on the tradition of organising one day national meeting cum seminar in the month of October 1994, bringing various people working in the field of natural disaster mitigation under one single roof. The theme for this year's meeting was Geoscientific Inputs in Preparedness and Mitigation of Natural Disasters, A Safer World for 21st Century: Reduce Vulnerability.

Membership number of the Society is rising both at national and international level. The Member's Directory is going to be published soon such that developing relations with each other among the members of the Society becomes handy. The effort of publication of journals is maintained.

The Society would like to extend sincere thanks to all the readers and to those who have contributed professionally and financially in the publication of this issue.

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## NGS News

1. 9th Himalaya - Karakorum - Tibet Workshop was successfully organized by the Nepal Geological Society on April 1-4, 1994. The workshop was held at the Nepal Administrative Staff College (NASC), Jawalakhel, Lalitpur. More than 200 participants from different countries of Europe, Asia, N. America, Oceania participated in the workshop. About half of the total participants were from Nepal itself, 25% from India and rest of the delegates were from Austria, Canada, China, France, Germany, Japan, New Zealand, Pakistan, Switzerland, Thailand, U.K. and the USA.

During the opening session on April 1, 1994, morning, welcome speeches were delivered by Mr. A. M. Dixit, Convenor of the Workshop followed by a speech from Dr. P. Le. Fort. The Rt. Hon. Mr. D.N. Dhungana, Speaker of the House of Representatives inaugurated the workshop by lighting a lamp and delivering the inaugural speech. During the morning programme Honorary Membership of the Nepal Geological Society were awarded to Prof. P. Bordet (France) and Dr. C.K. Sharma (Nepal) by the Rt. Hon. Mr. Dhungana.

During the four days workshop, 15 technical lecture sessions were conducted covering topics starting from Northwest Himalaya and Karakorum, Tibet-Pamir, the Indus Suture Zone, Tethyan Himalaya, Higher Himalaya, Lesser Himalaya and the Siwaliks and the Seismo-tectonics, denudation, Paleo-environment, environment, and paleomagnetism. 13 Posters were listed but less were shown. About 50% of the participants were from Nepal.

The workshop ended with a concluding session and during the concluding session, one delegate from each country was invited

to speak about some of their interesting topics that arose from the Workshop. At the end of the workshop, Mr. A. M. Dixit (President) and Mr. K.P. Kapble (Vice-President) of the Nepal Geological Society, thanked and bid farewell to all the participants from various countries for their participation in the Workshop and making the Workshop a great success.

Three field excursions were also included during the workshop. The field excursion on the Siwaliks of Surai Khola - Butwal area and the Lesser Himalaya between Butwal and Pokhara was conducted before the workshop while the other two field excursions on the Central Crystallines of the Langtang Valley and the Main Central Thrust Zone and the Nuwakot and Kathmandu complexes of the Kodari area close to the Nepal-Tibet border were conducted after the Workshop.

2. The election for the office of 8th Executive Committee was held on August 19, 1994. The newly elected members for the 8th Executive Committee took their office from September 1, 1994. An official 'Office Handover Ceremony' was held at Hotel Himalaya, Pulchowk, Lalitpur on August 26, 1994 during the Biennial Function. The Biennial Function was chaired by the Vice-Chancellor of the Royal Nepal Academy of Science & Technology (RONAST), Dr. Kedar Lal Shrestha and the function was graced by chief guest the then Honorable Minister of State for Water Resources Mr. Laxman Prasad Ghimire. The function was also attended by high ranking government officials, distinguished guests, journalists and members of the Society as well as their spouses. The Biennial Function was held at very cordial environment which began with the welcome speech by the then President of the Nepal Geological Society Mr. Amod Mani Dixit. President-elect Mr. Krishna



Prasad Kaphle, delivered the speech highlighting on the programmes and objectives on behalf of the newly elected 8th Executive Committee. The Chief Guest delivered the guiding address to the Society and assured the full cooperation and help to the Society in the time to come. The Chief Guest also lauded the Nepal Geological Society for its notable activities and contribution it has made in the advancement of geological science.

The Chairman of the function Dr. Kedar Lal Shrestha also addressed the function and lauded the Society for its achievements. Dr. Rajendra B. Shrestha, the Secretary elect delivered the vote of thanks.

The function was followed by cocktail dinner and it provided a good opportunity to renew the friendship, make new friends and on top of all, it provided the opportunity to fantasize on different aspects of geology.

At the end of the function, it was well heard by everybody among the members and guests that it was a great social event of the Society and should be continued in future also.

3. The 15th Annual General Body Meeting of the Nepal Geological Society was held on Aug. 26, 1994 at Hotel Himalaya, Pulchowk, Lalitpur. The meeting began with the welcome speech by the then

President Mr. Amod Mani Dixit. Mr. Ganga Bahadur Tuladhar the then Secretary presented the Annual Report to the General Body. Similarly, Mr. Shardesh Raj Sharma, the then Treasurer presented the financial report on the financial status of the Society while Dr. Rajendra B. Shrestha, the Secretary-elect highlighted on the programmes and objectives of the 8th Executive Committee during its tenure in the office. Members of the Society participated in the broad discussion on the proposal from the Rules and Regulation Sub-Committee for the amendment of the Society's Constitution, other topics and issues of concern.

4. The NGS organised a one-day National Meeting cum Seminar on "Geoscientific Inputs in Preparedness and Mitigation of Natural Disaster" on October 5, 1994 in cooperation with Water Induced Disaster Prevention Technical Center (DPTC), Kathmandu to commemorate the International Decade for Natural Disaster Reduction (IDNDR) Day, 1994.
5. The Nepal Geological Society organized a talk program at the auditorium of the Department of Mines & Geology, Lainchour, Kathmandu on October 28, 1994. The scientific talk was delivered by Mr. Raja Bhai Bajracharya, Geophysicist on "Seismic Macrozonning of Nepal".

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नेपाल भौगर्भिक समाजको अगष्ट २६, १९९४ मा आयोजना गरिएको पन्ध्रौँ वार्षिक साधारण सभामा अध्यक्ष श्री आनन्द मणि दिक्षितले प्रस्तुत गर्नु भएको स्वागत भाषण तथा सचिव श्री गंगा बहादुर तुलाधर र कोषाध्यक्ष श्री शारदेश राज शर्माको प्रस्तुत गर्नु भएको प्रतिवेदनहरूको साथै

सचिव पदमा चुनिनु भएका डा. श्री राजेन्द्र बहादुर श्रेष्ठले प्रस्तुत गर्नु भएको आगामि कार्यक्रमहरूको विवरण सम्बन्धि प्रतिवेदन र तत्पश्चात सभामा भएको छलफल तल प्रस्तुत गरिएका छन्।

**Welcome Speech by Mr. A. M. Dixit, President  
Nepal Geological Society**

Respected Honourary Member of  
Nepal Geological Society Dr. C.K. Sharma,  
Honourable Ex-Presidents of the Society,  
Mr. President - Elect and Members of the 8th  
Executive Committee  
Dear Colleagues

I welcome you all in this meeting which is the last occasion for discussing the affairs of the Society during the tenure of the Seventh Executive Committee. I invite you, distinguished members of the Society to discuss on the various issues and agenda proposed by the Executive Committee and raise issues which you regard necessary for fixing the future course of action of the Society.

The Report of the Executive Committee will be presented by the Secretary, Mr. G.B. Tuladhar who very aptly conducted the whole affairs of our organisation during the last two years. It was because of his untiring efforts that the Society could discharge smoothly the responsibilities bestowed upon the Seventh Executive Committee by the members.

The Financial Report of the Society for the last two years will be presented by the Treasurer, Mr. S. Raj Sharma. Then the Meeting will listen to the proposals of the special sub-committee on rules and regulations who have prepared the draft of certain amendments on the Charter of the Society and discuss it for possible adoption. Then the floor will be open for any other proposals or issues and discussion. This is the proposed agenda for the meeting.

But before we go to the agenda, I request you to allow some time to express my feelings at this juncture of time.

I thank you all for giving me an opportunity to serve the Society in the team of excellent friends - members of the Seventh Executive Committee. It was just wonderful to work with all of them and to be guided by their proposals and vigour. But allow me to mention the names of two of them who were extraordinary in their efforts to conduct the affairs. I sincerely thank Mr. S.R. Sharma who discharged the difficult responsibility with extraordinarily scrupulous

way. I also thank Mrs. Rama Shrestha for her enthusiasm and her readiness to take and discharge so many responsibilities so aptly.

As we all know, the last two years witnessed a great many activities conducted by the Society. These were the continuation of the Society's activities and vision which were some fifteen years ago. What we could achieve today is actually the result of the set principles, philosophies, goals, targets as well as the works carried out by the Society during the previous years. The success were also the results of the guidance and critiques from the members and the responsibilities taken up by the members of the different sub-committees.

It was the work of the publication group whose efforts and vision could bring out the two abstract volume in time during the international seminars. It was the efforts, scientific vision and organisational ability of the organisers of the various scientific excursions that helped to bring the seminar to a successful end enhancing the image of the Society among the international community.

The members of the Advisory Board and other senior members of our Society always made themselves available during critical times and guided the Executive Committee to the desired direction and goal. We express our sincere thanks to them and hope they will continue according the same cooperation in future.

We owe much to the different authorities of government, academic and scientific agencies and private organisations who always helped us in all of our endeavours by providing material, logistic, financial and above all moral support.

Detailed account of the activities will be presented by the Secretary Mr. Tuladhar. I only wish to say that we could not accomplish some of the other important goals of the Society.

We could not move forward in our quest for a permanent office for the Society. No inch could be moved forward towards exploring the possibility of obtaining the land free of cost.

We were some how late to bring out issues of our publications.

Unfortunately the Bi-annual function, set for this evening, will be the only social gathering organised. Despite the tremendous importance of social gatherings, no picnic was organised.

Similarly, perhaps a good part of the membership could not receive regular communication from the Society which hindered their effective participation in the activities.

The members of the Executive Committee and other members of the Society had warned me of these shortcomings and failures in time. But it was my fault that I could not manage to respond to their wishful desire and action. Obviously I failed in these aspects I apologise for the harm done.

Working in the Executive Committee as the President was perhaps the most important and a very wonderful training for me and I thank you for giving me this opportunity.

Now, if there is no objection to the proposed agenda, I request to continue the activities of today's meeting.

## Annual Report by Mr. G. B. Tuladhar, Secretary Nepal Geological Society

Mr. Chairman,  
Members of the Society

It is a great pleasure for me to welcome you all in this 15th Annual General Body Meeting of our Nepal Geological Society on behalf of the executive committee. The tenure of the seventh executive committee is going to be completed and the newly elected office bearers of the Society will take office from September 1, 1994. I would like to congratulate all the newly elected members of the eighth executive committee and wish them every success for their future endeavours for the advancement of the Society and believe that they can contribute more in the coming days in many new dimension. The Chairman and the members of the election sub-committee are duly thanked for holding the recent election successfully in a cordial atmosphere.

Dear friends, now I would like to present here the actual state and the activities of the Society conducted during our office. All the members must have been noticed that the Society has improved its modus operandi, so as to achieve its objectives and goals. It has set up several sub-committees in order that a team spirit could be maintained and a group decision making process could be exercised in the Society's activities. It has been already 14 years since our Society came into existence. Now, with the passage of time the Society represents a sizable community of geoscientists and related engineers with 334 national and international registered members and 52 associate members. They are all working in different organizations and institutions and are making valuable contribution in the development efforts of the country.

Dear friends, we are glad to announce here that this year, the Nepal Geological Society has been nominated as a member of the 'IDNDR-National Committee'. We consider this nomination as a recognition of the contribution made by the Nepalese geoscientific community in the country's Natural Disaster Reduction efforts.

Two prominent geoscientists, Dr. Chandra Kanta Sharma from Nepal and Dr. Pierre Bordet of France were honoured as Honourary Members of the Society in accordance with the Article 9, sub-article 1 of the constitution of the Society. The Honourary Membership was granted as a recognition of their valuable contribution in the field of Himalayan Geology and the honour was awarded during the 9th Himalaya-Karakorum-Tibet Workshop in Kathmandu on April 1, 1994. However, Dr. Pierre Bordet could not attend the workshop due to his ill health and was handed over to Dr. Patrick Le Fort on his behalf.

This time, the Society had the opportunities to nominate Mr. J. N. Shrestha, Ms. Rama Shrestha and Mr. G. B. Tuladhar to participate in Disaster Management Country Workshop, Natural Disaster Management Training Program and ESCAP Monitoring Meeting respectively in Kathmandu.

The Society always recognizes the importance of national and international networking and the need to draw the Society as well as the national professionals into the international mainstream by providing them with opportunities for international exposure and participation in different tasks and the exchange of relevant knowledge. In this context, the Society has organized several scientific meetings and seminars, dedicated to different fields of geosciences. They were participated by numerous outstanding national and international geoscientists and engineers. The successfully conducted 'International Seminar on Hydrology with a special colloquium on Environmental Problems and Water Resources of Himalayan Region' from April 19-21, 1993 and the '9th Himalaya-Karakorum-Tibet Workshop' during 1-4 April, 1994 held in Kathmandu by the Society were a few such activities. Such Seminar and Workshop in the international level were the milestones in achieving the goals of the Society towards professional development and the contribution in the task of national development. The Society has been regularly organizing



seminars on the topics of Himalayan environment, natural hazard mitigation and disaster prevention on the IDNDR Days.

This year, altogether we have been able to organize the following four scientific lecture programs:

- Rock engineering in underground excavation with the case histories of Taiwan, Argentina and some examples of Karnali-Chisapani and Kulekhani area in Nepal. By Dr. Sandeep Shah.
- Seismic hazards mapping and risk assessment for Nepal By Dr. R. Sharpe, A. M. Dixit and R. Jury.
- The role of geology and geologists in national development. By Dr. Toni Hagen.
- Volcanic associated base metal mineralization, with some examples from former Soviet Union. By Dr. D. R. Sakya.

I thank all the speakers as well as the Scientific Sub-Committee for organizing these lecture programmes.

Dear friends, on the aspect of publication activities of the Society, we could bring out the NGS-brochure, News Bulletin Vol. 10 and 11, Journal of Nepal Geological Society Vol. 9, Abstract Volume of Hydrology Seminar, Abstract Volume of 9th Himalaya-Karakorum-Tibet Workshop special volume 10, which are already in wide distribution. The Society is in the process of publishing the Proceeding of the 9th Himalaya-Karakorum-Tibet Workshop in near future. The Journal of Nepal Geological Society, No. 10 is not yet in a position to be published till this date which is mainly due to lack of scientific papers. In spite of the utmost efforts of all the members of the Editorial Board and the others, the new volume of the Journal could not be published in time and I apologize for the same. With a view to encourage the contributors and to have more scientific papers for the Journal, it was decided in the last Annual General Body Meeting to award Rs. 500.00 to the authors as a compliment for each article accepted for

publication. But this effort also has not borne any fruit yet. However, we are still optimistic and very keen to bring out the NGS Journal Vol. 10, though as a back log. Therefore, I strongly request all the members of the Society to cooperate actively in this regard by providing their scientific contributions in earliest possible time for the forthcoming issues. At present, the publication of the Society goes to a much wider audience which has been helped much by the Society's regular exchange program with similar organizations in different parts of the world. We have been able to establish exchange program with the following organization and societies.

- Geological Society of Hong Kong, Hong Kong.
- Institute of Geology, Punjab University, Pakistan.
- Bayerische Staatssammlung für Paläontologie und Historische Geologie, Germany
- Federal Institute of Geosciences and Natural Resources (BGR), Germany.
- Geological Survey of Iran, Iran.
- British Geological Survey, U.K.

The United States Geological Survey of USA and Wadia Institute of Himalayan Geology of India are the other two organizations with which we are approaching for establishing the exchange program.

Dear friends, financially the Society is improving much and the details along with the Auditors report will be presented here by the Treasurer.

As a remark, I must say that during the two years of our office, the Executive Committee held 30 meetings. Except a few, all the major decisions taken by the Executive Committee could be successfully implemented with the active cooperation and participation of all the members. This time, we are introducing a 'NGS Executive Hammer', a symbol of the NGS office, to be handed over to the in-coming Executive Committee during our Biennial function. We

would like to develop this as our tradition. In addition, we have prepared 9 Fix Pins bearing NGS logo which will be handed over by one executive member to the corresponding newly elected executive office bearer. We hope this sort of program will be appreciated by all of our members.

Before concluding this annual report, I would like to thank all the members of the Society for the cooperation in various activities of the Society. Thanks are due to the Department of Mines and Geology, Petroleum Exploration Promotion Project, Tribhuvan University, Central Department of Geology, for providing space and equipment facilities in order to carry out various professional activities of the Society. I hope for their continued support in future as well. Thanks are also due to all the advertisers, donors and sponsoring agencies for all the national and international seminars and workshop. Above all, I thank the coordinators and the members of all

the NGS sub-committees and the national and foreign regional representatives for their perpetual support and cooperation in conducting the various activities of the Society during the two years of our office.

Dear friends, the Rules and Regulations Sub-Committee has recently submitted the first draft of necessary rules and regulations to the executive committee and I would like to propose it as a separate agenda for full discussion. I hope these proposals will be approved here by the majority and it will be ultimately lead us to amendment of our Society's constitution in near future.

Lastly, I would like to end my annual report by wishing NGS a very good future. Thank you very much for your kind attention.

Thank you.

**Best Wishes and Hearty Felicitations  
on the Auspicious Occasion of  
45th National Democracy Day**

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## Financial Report by Mr. Shardesh R. Sharma, Treasurer Nepal Geological Society

Mr. Chairman,  
Respectable Members of the Society,

First of all, I would like to thank all of you for providing me this opportunity to present to financial report of Fiscal Year 050/051 as a treasurer of the Nepal Geological Society.

I have maintained the account according to account's rules and regulations by keeping ledger book, cash book, voucher and necessary bills as usual.

Our geological society had total cash asset of Rs. 1,65,489.77 (bank balance + cash in hand), when I took office as treasurer (of NGS 7th executive

committee) in 1992. Today, the cash asset of our Society has risen to Rs. 4,37,685.33. Besides, we bought one steel rack cabinet during this period.

Now, with the consent of the Chairman, I would like to present the details of financial report of the fiscal year 050/051.

The total income from 1<sup>st</sup> Bhadra 2050 to 32<sup>nd</sup> Shrawan 2051 is Rs. 10,26,480.67 and expenditure is 9,12,332.51.

The balance of receipt and payment is as follows:

बाबुराजा बज्राचार्य  
रजिस्टर्ड लेखापरिक्षक

The Members,  
Nepal Geological Society,  
Kathmandu

Gentlemen,

I have audited the attached receipt and payment account for the year ended 32<sup>nd</sup> Shrawan 2051 and reports as follows:

1. I have of all the information and explanations which are required for the purpose of audit.
2. Proper books as required are maintained according to company laws.

Date:- 9th Bhadra 2051

मिति :

3. The attached Receipt and Payment Account and Income and Expenditure account is drawn properly up in accordance with records which are made available to me.
4. According to the information given to me the attached Income and Expenditure accounts prepared for the year ended 32<sup>nd</sup> Shrawan 2051 exhibit true and fair view.

(Babu Raja Bajracharya)  
Registered Auditor

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**Nepal Geological Society**  
**Receipt and Payment Account**  
**For the year 1st Bhadra 2050 to 32nd Srawan 2051**

| RECEIPT                                | AMOUNT       | PAYMENT                          | AMOUNT       |
|--|--------------|----------------------------------|--------------|
| To Cash                                | 20,561.48    | By Advertisement                 | 24,946.50    |
| To Bank                                | 3,02,975.69  | By Tax on interest               | 535.28       |
| To Contribution from DPTC              | 15,000.00    | By Advance Mr. D.N. Subedi       | 10,000.00    |
| To Advertisement received              | 2,390.00     | By Printing & Processing of Jour | 47,324.00    |
| To Interest received                   | 25,680.36    | By Advance Mr. S.M. Tamarkar     | 3,000.00     |
| To Donation                            | 1,98,715.00  | By Typing/Printing               | 1,08,471.00  |
| To Life Membership fee                 | 20,630.70    | By Postage and Telegram          | 9,957.00     |
| To Upgrade Membership fee              | 150.00       | By Refreshment & Hospitality     | 19,034.36    |
| To Ordinary Membership fee             | 5,600.00     | By Photocopy                     | 19,582.85    |
| To Associate Membership fee            | 300.00       | By Taxi fare                     | 959.00       |
| To Renewal of Membership fee           | 1,400.00     | By fuel                          | 9,566.05     |
| To Renewal of Memb. fee (ass.)         | 50.00        | By Computer Service              | 8,000.00     |
| To Sales of Journal                    | 14,494.40    | By Remuneration/Salary           | 13,420.00    |
| To Misc. income                        | 15,988.00    | By Rent                          | 32,425.00    |
| To HKT Income:                         |              | By Souvenir bag                  | 71,680.00    |
| To Registration fee                    | 2,57,348.45  | By HKT expenses:                 |              |
| To Excursion one                       | 72,539.03    | By excursion one                 | 64,396.10    |
| To Excursion two                       | 1,33,204.12  | By excursion two                 | 1,73,748.17  |
| To Excursion three                     | 15,773.40    | By excursion three               | 26,090.00    |
| To Hotel accomodation                  | 18,412.18    | By Misc. expenses                | 13,047.20    |
| To Contribution from participants US\$ | 2,28,445.84  | By Travel expenses               | 25,500.00    |
| 4662.16x49.00                          |              | By furniture                     | 4,500.00     |
| To Difference in exchange of Dollar    | 358.99       | By Catering and services         | 2,26,150.00  |
|  |              | By Balance:                      |              |
|  |              | Nepal Bank, Lazimpat             | 11,518.75    |
|  |              | Nepal Bank, Bhotahiti            | 9,949.60     |
|  |              | Nepal Bank Fixed a/c             | 37,000.00    |
|  |              | Nepal Bank Saving a/c            | 12,765.58    |
|  |              | Nabil Bank Saving a/c            | 67,143.69    |
|  |              | Nabil Bank Fixed a/c             | 29,000.00    |
|  |              | Nabil Bank S a/c (4560.55)       | 2,23,466.95  |
|  |              | Agriculture D. Bank saving       | 7,361.07     |
|  |              | Agriculture D. Bank Fixed        | 37,000.00    |
|  |              | Cash in hand                     | 2,479.69     |
|  | 13,50,017.84 |                                  | 13,50,017.84 |

Treasurer

Secretary

President

Auditor



**Best Wishes and Heartly Felicitations  
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- Construction management and supervision of construction works etc.

Nepal Geological Society  
Income and Expenditure Account  
For the year ended 32nd Srawan, 2051

| EXPENDITURE                                    | AMOUNT              | INCOME                            | AMOUNT              |
|--|---------------------|-----------------------------------|---------------------|
| To Advertisement/Stationary                    | 24,946.50           | By Advertisement received         | 2,390.00            |
| To Tax on interest                             | 535.28              | By Contribution from DPTC         | 15,000.00           |
| To Advance Mr. D.N.Subedi                      | 10,000.00           | By Interest received              | 25,680.56           |
| To Binding, Processing of journal              | 47,324.00           | By Donation received              | 1,98,715.00         |
| To Typing/Printine                             | 1,08,471.00         | By Life Membership fee            | 20,630.70           |
| To Posting & Telegram                          | 9,957.00            | By upgrade Membership fee         | 150.00              |
| To Refreshment & Hospitality                   | 19,034.36           | By Ordinary Membership fee        | 5,606.00            |
| To Photocopy                                   | 19,582.85           | By Associate Membership fee       | 300.00              |
| To Taxi fare                                   | 959.00              | By Renewal of Membership fee      | 1,400.00            |
| To Travel                                      | 9,566.05            | By Renewal of Membership fee      | 50.00               |
| To Computer Service                            | 8,000.00            | By Sales of Journal               | 14,494.40           |
| To Advance Mr. S.M.Tamrakur                    | 3,000.00            | By Misc. Income                   | 15,988.00           |
| To Remuneration                                | 13,420.00           | By HKT                            |                     |
| To Rent  | 32,425.00           | By Registration fee               | 2,57,348.45         |
| To Souvenir bag                                | 71,680.00           | By Excursion one                  | 72,539.03           |
| To HKT expenses:                               |                     | By Excursion two                  | 1,33,204.12         |
| - Excursion one                                | 64,396.10           | By Excursion three                | 15,773.40           |
| - Excursion two                                | 1,73,748.17         | By Hotel accomodation             | 18,412.18           |
| - Excursion three                              | 26,090.00           | By Contribution from participated |                     |
| To Miscellaneous                               | 13,047.20           | US\$ 4662.116 x 49.00             | 2,28,445.84         |
| To Travel expenses                             | 25,500.00           | By Difference in exchange         | 358.99              |
| To Furniture                                   | 4,500.00            |                                   |                     |
| To Catering and services                       | 2,26,150.00         |                                   |                     |
| To Surplus (excess of income over expenditure) | 1,14,148.16         |                                   |                     |
|  | <u>10,26,480.67</u> |                                   | <u>10,26,480.67</u> |

Treasurer

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President

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## Speech by Dr. Rajendra B. Shrestha, Secretary-Elect, on the Occasion of 15th Annual General Body Meeting

Mr. Chairman,  
Respected Honorary Member of the Society,  
Dear Fellow Members of the Society

First of all, on behalf of the newly elected 8th Executive Committee members and myself in person, I would like to offer our heartfelt thanks to all of you for entrusting us the office of our prestigious Nepal Geological Society for a period of the coming two years.

At the very beginning, it is our duty to assure all of you at this 15th Annual General Body Meeting that as always, our prime objective will be to meet the goals of the Nepal Geological Society and broaden its sphere of activities in the future. Since its establishment, the Nepal Geological Society has been making a significant contribution to the nation by means of different geoscientific activities whether it be by organizing national or international seminars, workshops or by publication of geoscientific journals or by promoting the application of geological sciences to the national development.

At this moment, I am not going to analyze what had been achieved or what had not been during the last two years as glimpses on it had already been presented by Mr. Tuladhar. However, I am firmly of opinion that the last few years had been very encouraging in terms of achievements. The successful accomplishments of major events both at the national and international levels have made the Society a distinct institute and the Society has demonstrated the required competency and enthusiasm to achieve or even broaden its goals. It has instilled a great deal of optimism into our institution. Therefore, it would be our priority to speed up the momentum we have gained so far and I feel that the newly elected 8th Executive Committee is well capable of bearing this responsibility.

Dear members, definitely it is time for us to be more ambitious than ever. The Nepal Geological Society is now a matured institution and is well organized and strengthened and has considerably developed its capacity to achieve its goals. In this connection, in order to broaden the sphere of activities of the Society, our prime objective would be to initiate the new horizons of international geoscientific communication. However, as all of us realize, organization of workshops, seminars etc. for the purpose of geoscientific communication takes quite some time and at the moment, there is no worked out programme with us yet. So, we will have to explore the new possibilities for such international geoscientific communication.

The organization of one-day seminar cum meeting, every year, on various aspects of Natural Hazard and Disaster Prevention and Management, as a part of the observation of IDNDR day is to be continued as in the past. Our endeavour in this respect will be to bring as many organizations and institutions under the IDNDR umbrella as possible, in order that a coherent and concerted voice could be generated towards the programme and policy formulation. At the same time, the possibility of national or regional gatherings of geoscientists on other aspects should also be ventured.

It is to be noted that the publication work of the Society has not been smooth yet. Particularly, the publication of the Journal of Nepal Geological Society has not been without a delay or difficulty. The main difficulty has always been lack of geoscientific articles. Well, I would like to take this opportunity to extend our sincere requests to all of you to help us in this regard. The regular publication of news bulletin, organizations of talk programmes, workshop cum training etc. shall be continued, however, our major concern will also be on the publication

of the Proceedings of the 9th Himalaya-Karakorum-Tibet Workshop. We are of opinion that we should put a lot of our efforts in the publication of geoscientific developments and findings for the purpose of dissemination of information among us.

We are well aware of the fact about the availability of diminishing opportunities for participation of geoscientists in the various aspects of national developments. We understand that there are quite a few number of geoscientists who are not getting opportunities to get involved directly (in other words, I would say not employed) in the developmental efforts of the country but who are willing to provide their services to the nation. On the other hand, there are many governmental or non-governmental organizations or institutions where the essential input of geoscientists have been overlooked deliberately or was not realised. There should be co-ordination in between these two sides and the Society (NGS) could act as a medium in this matter such that the new opportunities of participation or employment of geoscientists in the task of nation development can be enhanced.

Also, the representation of the Nepal Geological Society in other institutions or agencies such as IGCP, National Environment Council, RONAST and others is a matter of great concern and shall be dealt with. For this, the Nepal Geological Society will have to raise its voice louder than before.

Finally, I would like to make a special request to all the members of the Society at this opportunity. Any suggestions, comments or proposals you have, please bring them to us, we will feel ourselves guided by this.

Well, before I say good-bye this afternoon, on behalf of newly elected 8th Executive Committee, once again thank you all for your faith upon us. It is to be admitted that without your support, cooperation or help, it won't be possible for us to reach our goal. Hence, we will be very much looking forward to the continued co-operation and support as ever from all the members of the Society as well as well wishers to enable us to meet the challenges of the future in meeting the goals of the Nepal Geological Society and broaden its sphere of activities.

Thank you.

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श्री प्रताप सिंह तातेडले नेपाल भौगर्भिक समाजको आम्दानी रकम किन विभिन्न बैंकहरूमा राखेको हो भनी प्रश्न गर्नु भयो र साथै यस विषयमा अडिटरबाट कुनै सुझाव दिएको छ कि छैन भन्नु भयो । उहाँले Financial Report सवै सोसाइटीको सदस्यहरूलाई वितरण गर्नु पर्दछ भन्दै आफ्नो राय दिनु भयो । यसै प्रसङ्गमा डा. प्रकाश अधिकारीले भन्नु भयो विभिन्न बैंकमा राख्नु उचित हुँदैन । त्यसकारण कम बैंकमा खाता संचालन गर्नु पर्ने राय दिनु भयो । श्री प्रताप सिंह तातेडले हामीले कर कार्यालयलाई अनुरोध गर्नु भन्ने कर नदिरनु पर्ने व्यवस्था पनि गर्न उकिने सुझाव दिनु भयो ।

डा. श्री चन्द्रकान्त रामले समाजले Trade Ability भएका बैंकहरूमा सकभर रकम मुहुरती खातामा जम्मा गर्नु पर्ने र एउटै बैंक माथि मात्र निर्भर हुनु हुँदैन भन्ने आफ्नो राय सुभाष दिनु भयो ।

साधारण सभा साँझ ५.०० बजे सम्पत्ता समापन गर्ने कुरा एबेण्डामा उल्लेखित भएता पनि समाजका सदस्यहरूको अति उत्साहपूर्ण सहभागिताले छलफल सम्पन्न गर्दै साँझ ६.५५ बजेतिर मात्र सम्पन्न भयो । सो सभाको अन्त्यमा तत्कालीन अध्यक्ष श्री आमोद मणि दिक्षितले सहभागी सदस्य साथीहरूलाई धन्यवाद ज्ञापन गर्दै सोहि दिन साँझ उक्त स्थानमात्रै Biennial Dinner कार्यक्रममा सहभागी हुन आमन्त्रण गर्दै साधारण सभा विसर्जन गर्नु भयो ।

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## Inaugural Speech By Rt. Honorable Mr. Daman N. Dhungana, Speaker, House of Representatives

Mr. Chairman,  
Distinguished participants.

I wish to thank the organiser-Nepal Geological Society, for giving me the honour of inaugurating this important workshop of geoscientists.

It is very pleasant to learn that the scientists engaged in the geological researches in Himalaya, Karakorum and Tibetan Plateau meet regularly to discuss their scientific findings and this is the 9th meeting of such kind. I believe, this probably is the first time that such a big group of earth scientists from different parts of the world have gathered here in Nepal to present and discuss the results of their research relating to different aspects of geological environment and active geological processes in this part of the world.

Though I am not a scientist however, detailed program of the workshop indicates that both the fundamental as well as the applied aspects of geology are to be discussed. It is also interesting to note that the Himalayan range has attracted such a large number of scientists from different countries. You have gathered here to discuss your hypotheses, your findings and for identifying the directions for future research. I take this meeting as a gesture of international cooperation of scientists for the upliftment of humankind as a whole. This workshop, I am confident, will help in unfolding the geological mysteries of the Himalayan range.

We consider the Himalayan range as a site of tremendous natural resources which has been further compounded by your gathering and the research work that you are undertaking together. These natural resources to include mineral and water resources are yet to be effectively exploited. We have heard that the geological factors are at times the major factor to be considered. As you have gathered here, I invite you to consider these factors and guide us to explore and exploit the potential sites of such resources keeping in mind the environmental factors.

You are requested to indicate the stable areas where we may undertake our developmental activities and also those areas which can not be used for infrastructure construction. We want you to tell us from your researches the generalities and natural laws of the phenomena of landslides and debris flow, which appear, at the first glance, to be chaotic and unpredictable. Your help in clearing the uncertainties of such natural geological phenomena could greatly help reduce the danger as well as the possible disasters. Our experience has made us aware that geology is one of the primary components of the overall environment of the Himalayas. We know that environmental degradation, which is often a result of economic development and associated human settlement patterns that ignore appropriate natural resource management, can increase a country's vulnerability to natural hazards and exacerbate the impacts. Hence, we have to know about the geological facts and processes for an effective management of the environment and for its enhancement. This responsibility lies also with the earth-scientists.

In this context we attach very high importance to this workshop. I am sure that your discussion and deliberations will take you another step closure to the natural geological facts. The people of this region look upon this step of yours to be helpful in their endeavor to develop their countries, in enabling them to withstand the natural disasters in a less painful way, and in improving the quality of the physical environment of the region.

I congratulate the Nepal Geological Society for organising a workshop of this kind in Nepal and thank all the participating scientists from friendly countries for sparing time to travel all the way to Kathmandu.

I welcome all the participants to this workshop and wish for a very successful deliberation.

Thank you.

**Excerpt From**  
**THE KATHMANDU POST**  
28 August, 1994

## **Geological Society Working for Natural Hazard Mitigation**

By a Post Reporter

KATHMANDU, Nepal Geological Society Friday celebrated its 14th anniversary.

Established in 1980, with 37 earth scientists in the country, it now boasts of a total of 334 members including 121 members from different countries of five continents.

A.M. Dixit, the president of the society said a number of Nepali and foreign scientists were eager to join the organisation. The society has now become some sort of a centre of the global network of scientists and engineers studying the problems of Himalayan geology and environment, he said.

Besides bringing out two journals regularly, the society also conducts lectures and talk programmes on topical issues. It has organised two important scientific gatherings in the last two years. The first was a three day seminar on hydrology, jointly with the Association of Hydrologists of India, last April. Later, a four-day international Himalaya-Karakorum-Tibet Workshop was held, where 150 scientists from 20 countries took part. Dixit said the Society has responded to the UN call to observe the 90's as the International Decade for Natural Disaster Reduction (IDNDR).

The Society has been observing the IDNDR day, which falls on the second Wednesday of October. Seminars on natural hazard mitigation and

disaster management are held to mark the UN day. Minister of State for Water Resources, Mr. L.P. Ghimire hailed the Society's contribution. The geologists and earth scientists of Nepal have done much in the development of geological science, he said. They have also raised awareness of the people towards the importance of geology, he said.

The society's contribution ranges from geological mapping, mineral exploration, environmental and landslide studies, to natural hazard mitigation. It also helps in educating and training young Nepalese by preparing suitable curriculum of studies in the University.

Lauding the society's efforts, Minister Ghimire cautioned against complacency. Groups such as the Geological Society have still to develop and practice a system of self-assessment, and practice professional ethics, he said.

"Each and every member of the community has to critically ask himself how his professional activity and scientific knowledge has helped the poor man in the village in his quest to come out of the dark", Ghimire added. He was the chief guest at the Society's biennial function.

The society plans to contribute in the organisation of SAARC meeting of geo-scientists in Nepal. Ghimire told the gathering Monday the government would look in the matter positively.

## Vote of thanks By Mr. G. B. Tuladhar, Secretary Nepal Geological Society

Mr. Chairman,  
Honorable Chief Guest,  
Your Excellencies,  
Distinguished Guests and Participants,  
Ladies and Gentlemen

Nepal Geological Society is privileged to organize this 9th Himalaya-Karakorum-Tibet Workshop here in Kathmandu this year for the first time in this Himalayan region whereas all the earlier workshop on this topic were held in different parts of Europe. I greet you all in this workshop on behalf of the Nepal Geological Society.

This workshop provides a common forum for the national and international scientists to share their experiences and knowledge on different geological aspects of the Himalaya-Karakorum-Tibet region. I believe, the discussions that we shall have in these four days will help to enhance our understanding and I hope will ultimately lead us towards the solution of various geological and environmental problems in this region.

Organization of this workshop would not have been possible without the active support and participation from numerous national/international organization and personalities.

On behalf of the Nepal Geological Society, I wish to express my profound and sincere gratitude to our Chief Guest Rt. Honorable Mr. Daman Nath Dhungana, Speaker of the House of Representative for sparing his precious time to inaugurate this 9th Himalaya-Karakorum-Tibet Workshop and for addressing the Session.

It is a privilege to render my deep appreciation to Dr. Devendra Raj Mishra, Rector, Tribhuvan University for presiding over the inaugural session as the Chairman.

Dr. Patrick Le Fort a prominent Himalayan Geologist from CNRS France is duly thanked for his notable address.

The Society is thankful to all our honoured Guest, high officials of His Majesty's Government, journalists and other distinguished personalities for offering their valuable time to attend this session.

Much credit goes to all the national and international participant scientists for their untiring efforts in preparing their valuable scientific papers and for taking all the troubles to come to Kathmandu to present technical session of the workshop.

On behalf of the Society and personally myself, I thank all the member of the workshop organizing committee for their active contribution in making this workshop a success.

I take this opportunity to express my sincere thanks to the Department of Mines and Geology, Petroleum Exploration Promotion Project, Central Department of Geology TU, Nepal Electricity Authority and Ground Water Development Board, Department of Irrigation for their moral and logistic supports and the following sponsors:

- International Lithospheric Programme (ILP) of the International Union of Geological Sciences (IUGS).
- Commission of Tectonics (COMTEC) of IUGS
- The Institute des Science de l'Univers (INSU, CNRS), France
- Embassy of France in Nepal
- B.P. Koirala India-Nepal Foundation
- BGR, Germany
- Godavari Marble Industry, Nepal
- Hazama Gumi Co., Japan



- Obayashi Gumi Co., Japan
- Sanyo Consultants, Japan
- Silt Consultants (P) Ltd, Nepal
- Yagi Kagaku Co., Sapporo, Japan and
- Nippon Koei Co. Ltd, Nepal

for encouragement by providing financial and logistic supports for the workshop.

On behalf of the Society, I am grateful to all of the organizations and individuals-expatriate as well as Nepalese, who provided us valuable assistance.

I owe a great deal of thanks to all the respected members of the Society for their perpetual and altruistic cooperation and enthusiastic participation in the workshop.

Thank you.

**Felicitations & Best Wishes  
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The Auspicious Occasion  
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Development Planners

The exposures were mapped in detail and different sets of joints were surveyed. The statistical analysis of these data were made to evaluate the stability of slopes. Test pits and trenches were excavated to find out dolomite and phyllite contact and weathering condition of rocks.

More than 10 km length of refraction sounding was done and interpreted to find out depth of alluvium and colluvium, weathering profile and geological structures. About 3,500 m length of core drilling was made to find out the bedrock depth, rock quality and to perform other tests. About 600 m length of exploratory adit one at dam site and two at power house site were excavated and detail logging was made.

In situ tests as convergence measurements, dilatometer tests, hydrofracture tests were done inside exploratory adit test chamber.

Besides, point load test of selected core samples from different rock types were done to estimate the compressive strength of rocks. Laboratory test of different rock samples and mineralogical analysis were made to find out different physical parameters and mineralogical composition.

On the basis of interpretation of geological data and analysis of the test results the orientation and size of underground structures, rock mass support and other hydraulic structures are being designed.

The geological condition is not favourable to the underground desanding basin. The highly squeezed and sheared rock in the phyllite - dolomite contact indicate the presence of fault. This fault is wavy in nature and is interpreted as influenced by Bari Gad fault.

## NEPAL GEOLOGICAL SOCIETY

### NOTICE

The Nepal Geological Society is organising First Nepal Geological Congress in Kathmandu on August 15-16, 1995 (B.S. Shrawan 30-31, 2052) to commemorate 15th anniversary of the Society. All the members of the Society are sincerely invited to attend the Congress and also requested to make contribution to the Congress by submitting geoscientific articles, research papers at the earliest possible time. For other detail information, please contact the Convenor of the First Nepal Geological Congress.

Secretary  
Nepal Geological Society

## 30th INTERNATIONAL GEOLOGICAL CONGRESS

### NOTICE

30th INTERNATIONAL GEOLOGICAL CONGRESS IS GOING TO BE HELD IN BEIJING, CHINA ON 4-14 AUGUST 1996. THE FIRST AND SECOND CIRCULARS ARE ALREADY CIRCULATED. FOR DETAIL PLEASE CONTACT

30th INTERNATIONAL GEOLOGICAL CONGRESS  
P.O. BOX 823  
BEIJING 100037  
PEOPLES REPUBLIC OF CHINA

## **Some Highlights on the Biennial Function of Nepal Geological Society**

The 7th Executive Committee and the newly elected 8th Executive Committee jointly organised the Biennial Function continuing the tradition of the Nepal Geological Society to organise such social event once in every two years. It was held at Hotel Himalaya on Aug. 26, 1994.

The function had been kindly chaired by the Vice-Chancellor of Royal Nepal Academy of Science and Technology (RONAST), Dr. Kedar Lal Shrestha. The Honorable Minister of State for Water Resources Mr. Laxman Prasad Ghimire graced the function as the Chief Guest.

### **Welcome Speech By Mr. A. M. Dixit, President Nepal Geological Society**

Honourable Chairman  
The Vice Chancellor of RONAST,  
Honourable Chief Guest,  
The Minister of State for Water Resources  
Mr. Laxman Pd. Ghimire,  
Mr. Secretaries and Senior Government Officials,  
Distinguished Guests,  
Dear Colleagues,

On behalf of the members of Nepal Geological Society, I welcome you to this important function of the Society. This probably is the only non-technical activity of the Society which takes place once every two years. But this is a very important event, because it is this function in which the newly elected office bearers of the Society take their oaths of office for the next term in the presence of our Chief Guest and Distinguished audience. It is here that the past activities of the Society is reviewed in the presence of authorities from the government, academia and Universities and professionals from other disciplines as well as representatives from other walks of life. Since the geology now encompasses a much broader aspect than what was perceived some decades ago, and since a tremendous integration of sciences is taking place requiring integrated solution to various problems faced by this or that discipline, we regard it necessary to brief everybody of our plans and request all to intervene and enrich our plans by their valuable inputs.

The Nepal Geological Society has seen its 14 springs. It has taken a long stride since its establishment in 2036 Bikram Samvat when about 37 earth scientists of the country sat together and laid the foundation of this organisation which now boast of a total of 334 membership including 121 members from different countries of the five continents. Many more Nepalese and foreign scientists have expressed their desire for membership to our society which now has truly become some sort of centre of the global network for scientists and engineers studying the problems of Himalayan geology and environment and their interaction with our lives especially with our quest for development including building of infrastructure.

So far the members of our Society have been contributing much not only in the development of the science itself, but also in the task of national development utilising the knowledge gained.

We know the importance of an effective scientific communication. Our two publications the Journal of Nepal Geological Society and the Bulletin of the Nepal Geological Society are regular since the very first issue. We have a regular program of lectures and talk program on topical issues. We conduct national scientific meetings and in the last two years we were able to organise two important scientific gatherings of international character.



The first was the organisation, jointly with the Association of Hydrologists of India, of the 3-days long International Seminar on Hydrology with a special colloquium on Environment and Water Resources of the Himalayas in April 1993. The other was the 4-days long 9th International Himalaya-Karakorum-Tibet Workshop and three scientific excursions in different parts of Nepal. The total no. of participants in this last meeting exceeded 250 including 150 scientists from about 20 different countries of the globe.

Nepal Geological Society responded actively to the UN call to observe the last decade of the century as the International Decade for Natural Disaster Reduction and started activities towards achieving the goals. It has become the tradition of the Society to observe the IDNDR day, which falls on the Second Wednesday of October each year, by organising meetings and seminars on different topics pertaining to natural hazard mitigation and scientific input for natural disaster management.

By undertaking these activities the Society has been mobilising the Nepalese earth scientists towards the task of national development. We are keen to provide scientific basis for the national

programmes of development, environmental protection or disaster mitigation. We want to raise the awareness amongst ourselves as well as among the cross section of the society.

Your presence here, Honourable Chief Guest and Distinguished Guests, and your participation in this function, is the source of encouragement and moral support for us the geoscientist of the country who are deeply concerned about the magnitude of the different problems the country is facing and who are active doing a small part of the tremendous amount of the variety of works which are required to be done for making this beautiful country still a better place to live.

We are delighted to welcome you also because it gives us the opportunities to receive comments on our works and exchange ideas and philosophies about the concerted efforts to be made by scientific and engineering personnel of the country.

I welcome you to express your ideas and feelings.  
I welcome you all to be with us for the evening.

I thank you very much for your patience.

# नेपाल भौगर्भिक समाजले आयोजना गरेको द्वय वार्षिक समारोहमा समाजका नव-निर्वाचित अध्यक्ष श्री कृष्ण प्रसाद काफ्लेको मन्तव्य

श्रीमान् सभापति महोदय,  
प्रमुख अतिथि माननिय जलश्रोत राज्यमन्त्रीज्यू,  
भूतपूर्व कार्यकारिणी समितिका अध्यक्षज्यूहरू,  
आदरणीय विशिष्ट अतिथिहरू,  
महिला तथा सज्जनबृन्द,  
समाजका सातौँ कार्यकारिणीका सदस्यज्यूहरू एवं  
समाजका सम्पूर्ण सदस्य साथीहरू ।

सर्वप्रथम म नेपाल भौगर्भिक समाजले आयोजना गरेको यस द्वय वार्षिकी समारोह तथा नेपाल भौगर्भिक समाजको आठौँ कार्यकारिणी समितिमा नव-निर्वाचित पदाधिकारीहरूको परिचय एवं कार्यभार हस्तान्तरण कार्यक्रममा आफ्नो व्यस्तताको बावजुद प्रमुख अतिथ्य त्विकार गर्नु भएकोमा माननिय जलश्रोत राज्यमन्त्री श्री लक्ष्मण प्रसाद धिमिरेज्यू एवं विशिष्ट अतिथिहरू प्रति आभार प्रकट गर्दै हार्दिक स्वागत गर्दछु । हाम्रा सदस्य साथीहरूबाट हामिलाई यस नेपाल भौगर्भिक समाजको आठौँ कार्यकारिणी समितिमा आउंदा वर्षहरूका लागि कार्यभार सम्हाल्ने अवसर प्रदान गर्नु भएकोमा समाजका सम्पूर्ण सदस्य साथीहरूलाई नव-निर्वाचित कार्यकारिणी समितिको तर्फबाट म हार्दिक धन्यवाद ज्ञापन गर्दछु ।

वितेका १४ वर्षहरूमा सम्पूर्ण सदस्य साथीहरू, सरकारी एवं गैर सरकारी संस्थाहरू र प्राज्ञिक संस्थाहरूको सुभेच्छा, समझदारी, सहयोग एवं प्रोत्साहन पाएर यस समाजले आफ्ना विभिन्न कृयाकलापहरूद्वारा स्वस्थ वैज्ञानिक परम्पराहरूको थालनी एवं विकास गर्न सकेको छ । युलेटिन एवं जर्नलहरूको नियमित प्रकाशन, विभिन्न समयमा सुप्रसिद्ध भू-वैज्ञानिकहरूबाट विशेष विषयहरूमा (टपिक्स) प्रवचन कार्यक्रम राष्ट्रिय स्तरका गोष्ठीहरू प्राकृतिक उत्पात न्यूनीकरण अन्तरराष्ट्रिय दिवस (IDNDR DAY) मा आयोजित सेमिनारका कार्यक्रमहरू तथा अन्तरराष्ट्रिय स्तरका वैज्ञानिक

गोष्ठीहरूको सफल आयोजना हुन सक्नु नै स्वस्थ परम्परा हुन जसले एकातर्फ पेशागत विकासलाई मद्दत पुर्याउछन् र देश विकासको लागि आवश्यक वैज्ञानिक टेवा दिन्छन् भने अर्को तर्फ समाजका यस्ता बहुउद्देशिय कार्यक्रमले विश्वमा नेपालको प्रतिष्ठा बढाउन योगदान गरेका छन् । यसरी हामिले राष्ट्रिय तथा अन्तरराष्ट्रिय स्तरका वैज्ञानिक सेमिनारहरू गर्दै आएको कुराले हामी समाजले यस्ता वैज्ञानिक भेलाहरू आयोजना गर्न सक्षम छु भन्नुमा अत्युक्ति नहोला । यस सन्दर्भमा SAARC अन्तर्गत South Asia Geological Congress (GEOSAS) आयोजना गरिने प्रथाबारे सम्झनु सानदर्भिक हुनेछ । पाकिस्तानमा १९९२ मा सम्पन्न भए जस्तै श्रीलंकामा १९९५ मा सम्पन्न गरिने भएको Geological Congress (GEOSAS) नेपालमा पनि आगामि वर्षहरूमा संचालन गर्न हामी प्राविधिक तवरबाट सक्षम छौ । यसमा श्री ५ को सरकारका सम्बन्धित निकायहरूसँग मिलेर हामि उक्त Geological Congress को आयोजना गर्न उत्सुक छौ । श्री ५ को सरकारले यसमा विशेष ध्यान दिई आवश्यक कारवाही सुरु गर्न अनुरोध गर्दछु ।

विगतका केहि वर्ष देखि सरकारी तथा गैर सरकारी निकायहरूबाट भूगर्भविद्हरूको कार्य क्षेत्र खानी खोज्ने र भूमिगत जलश्रोत विकास कार्यमा मात्र सिमित नभई देश विकासका विभिन्न कार्यहरूमा पनि उनिहरूको महत्वपूर्ण भूमिका तथा योगदान हुन सक्ने वास्तविकतालाई बुझिदिने काम भएको छ ।

आज वास्तवमा श्री ५ को सरकारको विभिन्न निकाय एवं अंगहरूमा भू-वैज्ञानिकहरूको सेवाको आवश्यकता टड्कारो रूपमा देखा परेको होस् अथवा दुई मुलुक बीच निर्माण गर्नु पर्ने सडक, रेल्वे वा अन्य संरचनाको दीर्घकालिन योजना तर्जुमा गर्नुमा होस् । यस बाहेक श्री ५ को सरकारको सवै जसो

प्राविधिक निकायहरूमा भू-वैज्ञानिकहरूको सेवाको महत्वबारे सबैलाई ज्ञात भएकै हो । उदाहरणार्थ खानी, विद्युत, सिंचाई, भू-संरक्षण र अध्यापनका कार्यहरू संग सम्बन्धित निकायहरूमा भू-वैज्ञानिकहरूको सेवा व्यवस्थित किसिमले दिइएको छ । तथापि यस प्रकारका देश विकास तथा निर्माण कार्यमा भू-वैज्ञानिकहरूलाई जुन मात्रामा संलग्न गराइनु पर्ने हो र उनीहरूको स्थान सुरक्षित हुनुपर्ने हो त्यसतर्फ ठोस कदम चाल्ने काम सम्बन्धित निकायहरूबाट हुन सकेको छैन भन्ने कुरा बल तथा वातावरण मन्त्रालय, वातावरण परिषद्, सडक विभाग, जल उत्पन्न प्रकोप नियन्त्रण प्राविधिक केन्द्र (DPTC), विभुवन विश्व-विद्यालयको ईन्जिनियरिंग अध्ययन संस्थान जस्ता अन्य कतिपय सरकारी एवं गैर सरकारी निकायहरू मात्र होइन खनिज संग सम्बन्धित हिमाल सिमेन्ट उद्योग, हेटीडा सिमेन्ट उद्योग, नेपाल ओरिन्ड म्याग्नेसाईट र गोदावरी मार्बल उद्योग जस्ता स्थानहरूमा समेत भूगर्भविद्हरूलाई उचित स्थान नदिइनुबाट नै यो स्पष्ट हुन जान्छ ।

वातावरण जोगाउने तथा प्राकृतिक प्रकोप रोकथाम तथा न्यूनीकरण गर्ने कार्यमा भू-वैज्ञानिकहरूले खेल्न सक्ने भूमिका बारे पटक पटक हामिले विभिन्न समयमा विभिन्न माध्यमबाट (प्रबचन, गोष्ठी, सेमीनार, लेख प्रकाशन आदिबाट) प्रकाश पार्दै आएको भएता पनि भू-वैज्ञानिकहरूलाई सो विषयमा आफ्नो पूर्ण क्षमता देखाउने मौका प्रदान गरिएको छैन । देशका सम्पूर्ण योजनाविद्, निर्णायकता एवं उच्च पदाधिकारीहरू समक्ष आफ्नै मुलुकमा तयार भएका भू-विज्ञान सम्बन्धि दक्ष जनशक्तिलाई विभिन्न निकाय मार्फत देश विकास र निर्माण कार्यहरूमा संलग्न गराउनु हुन हामि विनम्र अनुरोध गर्दछौं । हाल नेपालमा भू-गर्भविद्हरू ठूलो संख्यामा बेरोजगार हुनु मुलुकको लागि राम्रो हैन । यस समाजले गत अप्रिलमा काठमाडौंमा आयोजना गरेको अन्तरराष्ट्रिय 9th Himalaya - Karakorum - Tibet - Workshop सेमिनार तथा अन्य कतिपय सेमिनारहरूमा भाग लिने स्वदेशी तथा विदेशी भू-वैज्ञानिकहरू जस्तै हिमालय क्षेत्रको भू-वनोट, भौगर्भिक अवस्था, प्राप्त

हुनसक्ने खनिज तथा जल सम्पदा आदि बारे अध्ययन तथा अनुसन्धान गरी प्रस्तुत गर्नु भएका लेखहरूलाई विस्तृत अध्ययन गरी नेपालको भू-वनोट र भौगर्भिक अवस्था अनुरूप सतर्कता अपनाई विकास र निर्माणका कार्यक्रमहरू संचालन गर्न आवश्यक छ भन्ने हालैमात्र हिमाली क्षेत्रमा गरिएको भौगर्भिक अनुसन्धानात्मक कार्यहरूबाट हाम्रो देश कुनै न कुनै बेला भूकम्पको चपेटामा पर्न सक्ने कुरालाई दृष्टिगत गरी नेपाल हिमालको भूकम्प सम्बन्धि विस्तृत अध्ययन तथा अनुसन्धान स्वदेशी तथा विदेशी भूगर्भविद्हरूबाट हुँदै आएकोमा धन अध्ययन हुँदै रहनु पनि उत्तिकै आवश्यक छ । आशा छ निकट भविष्यमा यस प्रकारको अध्ययनबाट भूकम्पको रोकथाम गर्न नसके पनि यस्ता अध्ययनले सहि अर्थमा भूकम्पको संभावित प्रकोप स्तरको मूल्यांकन आउन सक्ने भूकम्पको पूर्व सूचना गर्न तथा हाम्रा संरचनाहरूलाई बढी भूकम्प अवरोधक बनाउनलाई वैज्ञानिक आधार प्रदान गर्ने छन् । यस प्रकार हामी भूकम्प आउनु अगावै जनतालाई सजग गराउन सक्षम भई त्यसको प्रभाव न्यून गर्न सक्षम हुन सक्ने छन् । त्यस्तै गरी हिमताल विस्फोटन (Glacial Lake Outburst Flood : GLOF) बाट भविष्यमा हुन सक्ने धनजनको क्षतिबारे समयमै भौगर्भिक अध्ययन गराई त्यसको रोकथाम तथा न्यूनीकरण गराउनमा पनि भू-वैज्ञानिकहरूलाई संलग्न गराइनु अत्यावश्यक छ । यी सब काम गर्नका लागि समाजका सम्पूर्ण साथीहरू समक्ष अझै बढी कयाशिलताका साथ अगाडी बढ्नु हुन अनुरोध गर्दछु ।

समाजको स्थापनाकाल देखिनै यस समाजलाई विशुद्ध पेशागत रूपमा विकास गर्दै लैजाने लक्ष्य एवं क्रम अनुसार आउंदा दिनहरूमा यसलाई अधि बढाउन हरसम्भव प्रयास राख्ने प्रण गर्दै सम्पूर्ण भू-वैज्ञानिक साथीहरू एवं शुभचिन्तकहरू समक्ष सहयोगको लागि विनम्र अनुरोध गर्दछु ।

नेपालमा वैज्ञानिक जरनल तथा सूचनामूलक पत्रिकाहरूको उपलब्धता कठिन छ भन्ने कुरा पिडादायिक किसिमले महशूस भैरहेको छ । हालै मात्र समाजले आफ्नो प्रयासमा एक सानो



पुस्तकालयको स्थापना गर्न सफल भएको छ । यसको लागि British Geological Survey, Institute of Geology, Punjab University पाकिस्तान, Federal Institute of Geo-Sciences and Natural Resources, Germany; Geological Survey of Hongkong र Geological Survey of Iran संग एक्सचेंज प्रोग्राम अर्न्तगत जर्नलहरूको आदान प्रदान गर्ने काम भएको छ भने भविष्यमा USGS, WIHG, AEG र जापान, चीन र अष्ट्रेलियाका यस्तै निकायहरूसँग दुई पक्षिय सम्बन्ध कायम गरी पुस्तकालयको विस्तार गर्दै लैजाने कार्यक्रम छ । यसबाट समाज र विदेशी संस्थाहरूसँग दुई पक्षिय सम्बन्ध कायम हुनुका साथै भौगर्भिक ज्ञानको आदान प्रदान हुने र समाजको छवि अन्तरराष्ट्रिय क्षेत्रमा पनि राम्रो पाउँदै लैजानमा सहयोग पुग्नेछ । यसमा हाम्रो स्थायी कार्यालय भवनको कमिले निकै असर पारेको छ । यस बारे कृपापूर्वक ध्यान दिनु हुन म सबैलाई विनम्र अनुरोध गर्दछु । यद्यपि अहिलेको भाउमा यस समाजले निशुल्क जग्गा उपलब्ध गर्ने अठोट अति महत्वाकांक्षी देखिन सक्छ । तथापि यसको अपरिहार्यता एवं आवश्यकता बारे गम्भिरतापूर्वक विचार गर्नु हुन म उपस्थित सम्पूर्ण विद्वान बर्गमा हार्दिक अनुरोध गर्दछु ।

हामीले आउँदा दिनहरूमा जर्नल तथा न्युज बुलेटिनहरूको नियमित प्रकाशन, प्रसूचन गोष्ठीहरूको आयोजना, प्राकृतिक उत्पात न्यूनीकरण अन्तरराष्ट्रिय दिवसको कार्यक्रम (IDNDR day), पन्ध्रौँ बार्षिकोत्सवको उपलक्ष्यमा राष्ट्रिय स्तरको सेमिनार, र सन् १९९७ को अप्रिल - मे तिर एक अन्तरराष्ट्रिय सेमिनारको आयोजना गर्ने लक्ष्य राखेका छौँ । यसका अतिरिक्त अन्य प्रोफेसनल सोसाईटीहरूसँग मिलेर द्विपक्षिय सहयोगमा बातावरण जस्ता सम-सामयिक विषयहरूमा गोष्ठीहरूको आयोजना गर्ने तिर पनि अग्रसर हुने छौँ । हालै यस समाजले अन्तरराष्ट्रिय 9th Himalaya - Karakorum - Tibet

Workshop Seminar सम्पन्न गर्न सफल भयो, तर सो समयमा प्रस्तुत गरेका लेखहरू Proceedings को रूपमा प्रकाशित गर्ने काम पूरा नभए सम्म यो काम अपुरो हुने हुँदा हामी नेपाल भौगर्भिक समाजको जर्नल अफ नेपाल जियोलजिकल सोसाईटीको स्पेसल भोलुमको रूपमा Proceedings प्रकाशित गर्न हामी दृढ संकल्पित छौँ ।

गत वर्षहरूमा परामर्शदात्री संस्थाहरूले भू-वैज्ञानिकहरूको सेवा लिनुभई हामीलाई सक्दो सहयोग पुऱ्याउँदै आउनु भएकोमा अब आउँदा दिनहरूमा वहाँहरूले अझ बढी मौका प्रदान गर्नु हुनेछ भन्ने पूर्ण आशा एवं विश्वास लिएका छौँ ।

IDNDR National Committee मा यस समाजको प्रतिनिधित्व भए जस्तै IGCP National Committee, RONA, बातावरण संरक्षण परिषद्, त्रिभुवन विश्वविद्यालय र अन्य विश्वविद्यालयहरूमा र प्राज्ञिक बैठकहरूमा पनि यस समाजले सक्रिय योगदान दिन सक्ने भएको हुँदा यि निकायहरूका सम्बन्धित समिति एवं सभाहरूमा नेपाल भौगर्भिक समाजको प्रतिनिधित्वको लागि विनम्र अनुरोध गर्दछौँ । यसमा यि सबै निकायहरूलाई आवश्यक सरसल्लाह प्रदान गर्न यो समाज सधैं तत्पर रहने कुरा विश्वास दिलाउन चाहन्छौँ ।

अन्त्यमा आफ्नो व्यस्तताको बावजुद अमूल्य समय दिई हामी प्रमुख आतिथ्य स्वीकार गरी यस समारोहमा उपस्थित भई दिनु भएकोमा माननीय जलश्रोत राज्यमन्त्रीज्यू तथा यहाँ पाल्नु भएका सम्पूर्ण आदरणीय अतिथि बर्ग एवं सदस्य साथीहरूलाई धन्यवाद दिदै आफ्नो मन्तव्य यहि दुइ-० ग्याउने अनुमति माग्दछु ।

धन्यवाद ।

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on

the Auspicious Occasion  
of

45th National Democracy Day

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**Address by Honourable Minister of State for Water Resources  
Mr. L. P. Ghimire to the Biennial Function of the  
Nepal Geological Society  
26 Aug. 1994, Kathmandu, Nepal**

Mr. Chairman,  
Distinguished Guests,  
Members of Nepal Geological Society

It is a privilege for me to be invited to this important gathering of earth scientist and geotechnicians.

I have been in touch with the activities of Nepal Geological Society for a long time and have watched the way it is marching ahead as a professional and scientific body marshalling the desire of its membership to uncover the geological mysteries of the Himalayas and to utilize the knowledge in the task of national development, protection of the environment, development of the water resources and mitigation of natural disasters, and above all, in the development of a scientific tradition in the country.

The geologists and earth scientists of Nepal have done much in the development of geological science as well as in raising the awareness of the people towards the importance of this science in different aspects of national life. The work you have done in geological mapping and mineral exploration, environmental and landslide studies, natural hazards mitigation and propagation of the ideas of the International Decade for Natural Disaster Reduction (IDNDR), and in educating and training young Nepalese by preparing appropriate curriculum of studies in the University are highly commendable.

I am very much pleased to know that this Society has a very strong international membership of those prominent scientists who have devoted much of their scientific research to the geological problems of Nepal Himalayas. The network it has established makes it look like an international centre giving opportunities to the Nepalese scientists for effective communication with their counterparts from developed countries. This is a substantial

achievement for the scientific community of a country faced with a multitude of problems including a tremendous lack of resources. I congratulate you on your successful organization of the international seminars which have helped greatly to enhance the scientific prestige of the country.

I extend my best wishes to the newly elected members of the Executive Committee and hope that they will put their efforts in continuing the tradition and attain new heights in fulfilling the objectives of your scientific organization.

Being a technical person with a long experience of working in the field of infrastructure development I sometimes look into the problems of scientific and engineering community of Nepal. This is a very patriotic group and its activities are contributing much to the government's desire on development and systematic management of the country. But the professionals of Nepal have still much to do. Societies such as the Nepal Geological Society have still to develop and practice a system of self assessment and peer group review, develop and practice the system of professional discipline and ethics, develop and practice a system which requires each and every member of the community to critically ask himself how his professional activity and scientific knowledge has helped the poor man in the numerous villages in his quest to come out of the dark. I see this as the greatest of the tasks before the scientific and engineering community of Nepal. This should be the underlying theme in all your activities: be it publication of the journals or organization of seminars and symposia.

I appreciate your desire to contribute in the organization of one of the SAARC level meeting of geoscientists in Nepal in near future. I do not have any hesitation to believe in your capability to organise such meeting. Let us sit down and initiate the exploration of the possibilities and



to organise such meeting. Let us sit down and initiate the exploration of the possibilities and means. The government will look into this matter positively and will involve your organization to the extent possible.

I thank the organizers again for giving this opportunity to be with you and share some of my feelings. I congratulate all of the members of the new Executive Committee.

Thank you again.

*Best Wishes and Hearty Felicitations  
on the Auspicious Occasion of  
45th Anniversary of National  
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**Vote of Thanks delivered by the Secretary-Elect  
Dr. Rajendra Bahadur Shrestha  
during the Biennial Function of the  
Nepal Geological Society**

Respected Chairman,  
Honorable Chief Guest, Minister of State for  
Water Resources Mr. Laxman P. Ghimire  
Distinguished Guests,  
Dear Fellow Members of the Society,  
Ladies and Gentlemen

It is a great pleasure for the Society to have you  
all this evening in this Biennial function of the  
Nepal Geological Society.

On behalf of the Nepal Geological Society, I  
would like to take this opportunity to extend our  
sincere gratitude to the Honourable Minister of  
State for Water Resources, Mr. Laxman Prasad  
Ghimire for his kindness in gracing this  
evening's biennial function as the Chief Guest  
and his guiding address.

I wish to extend our deep gratitude to Dr. Kedar  
Lal Shrestha, Vice-Chancellor, Royal Nepal  
Academy of Science and Technology (RONAST),  
for presiding over this evening's programme as  
the Chairman.

I would also like to express my sincere thanks to  
all the high officials of His Majesty's  
Government, distinguished guests from different  
national and international agencies and journalists

who have kindly accepted our invitation and  
sparing your valuable time with us this evening.

I would also like to extend my heartfelt thanks to  
the President of the NGS Mr. Amod Mani Dixit  
for his welcome speech and the President - elect  
Mr. Krishna Prasad Kaphle for his notable  
address to this evening's programme.

A great deal of sincere thanks and appreciation to  
all the members of the Society and their spouses  
for your enthusiasm in participating this  
evening's biennial function.

Finally, please allow me to make a small note,  
looking back into the past, particularly the last  
few years, the Nepal Geological Society had  
made notable achievements making us feel proud  
of being its members. To further strengthen its  
image and broaden its sphere of activities in  
meeting the objectives of the Society, the newly  
elected 8th Executive Committee will always be  
looking forward to the co-operation and support  
from all the members of the Society and its well  
wishers.

Once again thank you, thank you all.

***Best Wishes  
and  
Hearty Felicitations  
on the Auspicious Occasion  
of  
45th Anniversary  
of  
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# **INTERNATIONAL DECADE FOR NATURAL DISASTER REDUCTION (IDNDR DAY 1994)**

**Oct. 5, 1994**

## **A Safer World for 21st Century: Reduce Vulnerability National Meeting cum Seminar on Geoscientific Inputs in Preparedness and Mitigation of Natural Disasters**

The Nepal Geological Society organised a one-day National Meeting cum Seminar on Geoscientific Inputs in Preparedness and Mitigation of Natural Disasters. The United Nations has declared the 1990-1999 decade as the **International Decade for Natural Disaster Reduction**. The Nepal Geological Society has responded to this UN declaration by organising one day national seminar every year and continuing this tradition the Society organized one day National Meeting cum Seminar on Oct. 5, 1994.

The seminar was chaired by Mr. S. N. Upadhyaya, Secretary, Ministry of Water Resources. Mr. Upadhyaya addressed the inaugural function. Honourable member of the National Planning Commission Dr. Ram Prakash Yadav was the Chief Guest.

Mr. K. P. Kaphle, President, Nepal Geological Society delivered the welcome speech. The Chief Guest Dr. R. P. Yadav

also addressed the gathering during the inaugural session in the morning. Mr. A. M. Dixit, Coordinator, NGS-IDNDR Council also delivered the speech during the inaugural programme. Mr. Shyam P. Rimal, Director, Disaster Prevention Technical Centre also addressed the morning session. The session was also addressed by Mr. W. S. Burger, Disaster Management Secretariat, UNDP, Kathmandu and Mr. Hidetomi Oi, Chief Advisor, Water Induced Disaster Prevention Technical Centre, Kathmandu. Dr. Rajendra B. Shrestha, Secretary of the NGS delivered the vote of thanks.

The inaugural session was followed by technical sessions during which various aspects related to Natural Disaster were discussed.

At the concluding session, resolution was passed from the participants to be submitted to the policy and decision makers of His Majesty's Government of Nepal and related international organisations.

**Welcome Speech delivered by  
Mr. K. P. Kaphle, President, Nepal Geological Society  
during National Meeting cum Seminar on  
International Day For Natural Disaster Reduction  
(IDNDR), 1994,  
Kathmandu, Nepal**

Mr. Chairman,  
Honourable Chief Guest,  
Dr. Ram Prakash Yadav,  
Member, National Planning Commission  
Secretaries and Senior Government Officials,  
Mr. W.S. Burger,  
Disaster Management Secretariat, UNDP  
Mr. Hidetomi Oi, Chief Advisor, DPTC  
Distinguished Guests, Ladies and Gentlemen,  
Dear fellow members of  
Nepal Geological Society.

On behalf of the Nepal Geological Society, I welcome you all to this meeting and the following scientific seminar on Geoscientific Inputs in Preparedness and Mitigation of Natural Disasters under the general IDNDR Theme proposed for this year - A Safer World for 21st Century: Reduce Vulnerability. As we all know, we are in the middle of the UN proclaimed International Decade for Natural Disaster Reduction. Today's programme has been organised to observe this important INTERNATIONAL DAY FOR NATURAL DISASTER REDUCTION. This is one of the opportunities when not only geoscientists and engineers but also people from various disciplines, medicine and chemists, geographers and foresters, planners and managers, representatives of various professional societies and NGOs meet together and share experiences on the needs of mitigation, and be prepared for various types of natural disasters faced by the country.

Nepal Geological Society attaches great importance to the concept of IDNDR and has constituted an IDNDR Council within its

framework. This Council has been working actively with all governmental and non-governmental agencies engaged in IDNDR activities in Nepal and help the Society to contribute significantly in the works of the IDNDR National Committee, Nepal. The Society is observing this important IDNDR day since 1991 by organising such meetings and seminars every year. Today's meeting is the fourth of this series. The objective of such meeting is to create awareness among all about various natural hazards and the possibilities of their mitigation, vulnerability reduction and ultimately the possibility of reducing the loss of lives and properties.

In the past IDNDR meetings, we discussed on Geologic Hazards, Environment, and Man-made Structures (1991), Geological Hazards and Environmental Problems in Nepal (1992), and Geoscientific Inputs in Natural Disaster Management (1993). The abstracts of the papers presented, and the main conclusions of such meetings have been published in different issues of the Bulletin of Nepal Geological Society which is distributed free of cost widely.

Nepal Geological Society has a membership of about 340 geoscientists of which about one third are from various countries of the world. Apart from organising such meetings/seminars on IDNDR Day, the Society is very busy in organising national and international seminars/workshops, scientific talk programmes, regular publication of a scientific journal which has global distribution, and a News Bulletin which carries popular articles on geology, mineral and water resources, environment, natural

hazards etc. for raising the awareness of the larger section of the society.

Because of her geographical location and a very active geologic process therein, our country faces several natural disasters such as Earthquakes, Landslides, Floods, Debris Flow, Glacier Lake Outburst Flood, Drought, and occasionally Storms, Locust and Pest Infestation also. Apart from a very heavy damage to the national economy, these frequent disasters claim more than a thousand lives every year. For many years the Nepalese regarded the disaster events as the act of god and responded fatalistically. Unfortunately the fatalistic approach still continues which is somewhat expressed in the importance attached to the post-disaster activities such as relief, rescue and rehabilitation in our disaster management activities, where as, as we know now, that stress is to be given in pre-disaster preparedness and mitigation activities. We know that it is possible to reduce the disaster but to make this a reality, we have to make a wider section of our planners and decision makers aware about the potential benefits of disaster reduction, and on the other hand, ask our scientists and engineers to assess the hazard/risk and their distribution in the country, prepare the necessary prevention/preparedness and mitigation programmes and implement them. At the same time effective reduction of disasters can not be achieved without active and convinced participation of the common people and potential sufferer from the village level in such programmes. For this, there is the obvious need of massive public awareness raising programmes. The Nepal Geological Society is in the process of publishing some simple awareness raising materials for safety against some of the natural disasters, mainly earthquake and flood, for wider distribution in the primary schools and VDCs all over the country.

Although the International Decade has been stated to be completed by the year 2000, we are convinced that the IDNDR philosophy and concept will continue further. Hence, the National Programme of Natural Disaster Reduction and the action plan should well consider this fact and prepare the programmes applicable to a much larger period of time to come.

The Nepal Geological Society wishes to express its gratitude to the IDNDR National Committee for inclusion of the Society in the National Committee. We assure that the Society will do its best to discharge the responsibilities bestowed upon. We are thankful to the National Committee also for the involvement of the Society President in the preparation of the national document and in the composition of the national delegation to the World Conference on Natural Disaster Reduction held in Yokohama, Japan in May 1994.

The first inaugural part of today's programme will be devoted mainly to the sharing of information and experiences of planning and execution of disaster reduction and mitigation related programmes undertaken by different government, and non-government organisations in Nepal. The second Technical part will be devoted for the presentation and discussion on technical papers on the results of various investigation and researches carried out on hazard assessment, mitigation and preparedness.

I welcome you to express your ideas and feelings, I also request you all to be with us in the technical sessions.

I thank you very much for your patience.



## Address to the National Meeting cum Seminar by Mr. Hidetomi Oi, Chief Advisor, Water Induced Disaster Prevention Technical Centre

Chief Guest, Hon'ble Member of National  
Planning Commission,  
Chairman, Secretary of Ministry of Water  
Resources,  
Representative of UNDP,  
Distinguished Guest,  
Ladies and Gentlemen.

It is my great pleasure to express my gratitude to  
you all and a few words to observe this function,  
a function relating to International Decade for  
Natural Disaster Reduction (IDNDR) day.

We all know big disaster of 20th Century like

1. Mt. Pelee Volcanic eruption of Martinique in 1902, when the beautiful port city St. Pierre engulfed entirely within 2 minutes killing all most all population of 30,000.
2. Messina earthquake of Italy in 1908 when the Messina city was completely destroyed killing 80,000 people of the city.
3. Kanto earthquake of Japan in 1923 when about 576,000 buildings were damaged killing about 140,000 people. Fires broke out after the earthquake which lasted for 45 hours and 90% of the death toll was due to the fires.
4. Changjiang (Yangtze) flood of China in 1931 when a total of 150,000 Km<sup>2</sup> with a population of 28 millions was affected killing 145,000 people. Famine and epidemics followed the flood claiming another unaccountable number of death.
5. Earthquake and tsunami of Chile in 1960 when a gigantic earthquake with the magnitude of 8.5 took place offshore of southern Chile resulting tsunami of 25m height which killed more than 1000 people.
6. Cyclone of Bangladesh in 1970 which is

the worst in the disaster history of 20th century in the world with wind velocity of 240 km/hr and 10m of tide carried away every thing in the coastal flat and offshore islands at the mouth of the Ganges River killing more than million people. Exact figure was not available, because no one knew how many people had been living there before the cyclone. Many countries sent a lot of relief items to Bangladesh (East Pakistan at that time). The amount was too huge to manage. It was indeed a mess. There was much surplus in some items due to duplication, while there was shortage in very necessary items.

Considering all these difficulties during relief operation in the past disaster of 20th century and to make international relief more effective the United Nations General Assembly adopted a resolution to establish the office of United Nations Disaster Relief Coordinator (UNDRO) in Geneva in 1971.

Considering that natural disasters, such as those caused by earthquakes, windstorms (cyclones, hurricanes, tornadoes, typhoons), tsunamis, floods, landslides, volcanic eruptions, and other calamities of natural origin, which have claimed more than 3 million lives world wide in the past two decades adversely affecting the lives of at least 800 million more people and resulting in immediate damages of more than US\$ 23 billion, in 1987 at the 42nd General Assembly, it was realised that the reduction of the impact of natural disasters for all people, and in particular for developing countries is must.

The General Assembly, then, decided to designate the 1990's as a Decade in which the international community will pay a special attention to fostering international cooperation in the field of natural disaster reduction. It was also decided to take a decision at its 43rd session on the content and modalities of UN participation there in.

At the 44th General Assembly in 1989, UN proclaimed International Decade for Natural Disaster Reduction (IDNDR) beginning from January 1, 1990.

It was also decided to designate the 2nd Wednesday of October as an International Day for Natural Disaster Reduction to be observed annually during the Decade by the international community in a manner befitting the objectives and goals of the Decade.

We all know, objective of this Decade is to reduce through concerted international actions, loss of life, property damage and social and economic disruption caused by natural disasters especially in developing countries.

UN General Assembly called upon all Governments to participate during the decade for concerted international action for the reduction of natural disasters and, with a view to surveying available mechanisms and facilities for the reduction of natural hazards, assessing the particular requirements of their respective countries or regions in order to improve, or update existing mechanisms and facilities and develop a strategy to attain the desired goals.

The General Assembly also called upon Governments to keep the Secretary-General informed of their countries plans and of assistance that can be provided so that the UN may become an international centre for the exchange of information. For that it was decided to establish the IDNDR Secretariat in DHA UNDRO in Geneva.

Considering frequent disasters especially due to the weak and fragile geology of Nepal UNDRO realised that there should be an institutional development for the prevention of water induced disasters in Nepal and requested the Government of Japan in 1977 to assist Nepal in establishing policies in the area of disaster prevention. In response to the request made by UNDRO, the Government of Japan sent mission for preliminary survey, for formulation of policies and preparation of proposal, in different time and on October 7, 1991, the Record of Discussion was signed between HMG/N and Government of Japan and since then Water Induced Disaster Prevention Technical Centre DPTC has been established.

Objectives of the Centre is to strengthen capabilities of HMG/N to cope with water induced disasters, through technology development, provision of training of Nepalese personnel and establishment of data base.

Nepal Geological Society is one of the most active organizations in Nepal. Since disasters in Nepal is greatly related with geological conditions, Nepal Geological Society has been playing an important role and must play more in future.

I hope this seminar jointly organized by Nepal Geological Society and DPTC will provide the opportunity to step forward disaster prevention and preparedness in Nepal.

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**Abstract of Papers Presented  
at  
NATIONAL MEETING CUM SEMINAR  
on  
INTERNATIONAL DAY FOR NATURAL DISASTER REDUCTION  
(IDNDR)**

**Organised by  
NEPAL GEOLOGICAL SOCIETY**

**October 5, 1995  
Kathmandu, Nepal**

**Kanti Rajpath - The Neglected Highway**

**Shanta Bir Singh Tuladhar Newa  
Dept. of Roads  
Kathmandu, Nepal  
and  
Bishal Nath Upreti  
Tribhuvan University  
Kathmandu, Nepal**

Kanti Rajpath, one of the roads of strategic importance, has been neglected from more than three decades. Only this year, the rehabilitation of this road has been started with the initiative of Hon'ble Mr. Bekha Ratna Shakya, Mayor of Lalitpur Municipality as per the promise made by him on the occasion of his election day in June 1, 1991. Even after three and half decades of completion of construction, the road in most of the sectors is still intact even without any maintenance, except at the three major landslide zones viz. Bhalu Khola, Mass Khola and Kalche. Had geoscientific investigation been conducted and geological hazard mitigation measures been adopted in due time, this road would have acted as a national relief alternative during the devastating damage to Tribhuvan Highway during July 1993

flood which had totally cut off the link between Kathmandu and Hetauda. Pending detailed study, two approaches for fixing priority among possible alternatives have been recommended viz. (1) fixing priority in the context of opening a jeepable fair-weather track, and (2) fixing priority in the context of construction to meet the design standards of a National Highway. For any alternative, Kalche has to be avoided and Bagmati Bridge site at Pangre has to be reached via Malta. At km 22.5, construction of a 600 m to 700 m long tunnel has been considered as a good proposition. It is strongly recommended that this road be developed to the standards of a National Highway with topmost national priority by conducting detailed engineering studies including geoscientific and environmental considerations.

# Hazards and its Mitigative Approach in Pokhara Valley

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Pokhara valley floor is composed of coarse sediments of mainly debris flow origin of various ages. The debris flow along the Seti river dammed its tributaries causing the lacustrine environment at the confluence with Seti river. Interfingering of lacustrine sediment and debris flow material is visible at such places.

The oldest member of the debris flow series is named Ghachok Formation by Yamanaka (1982) and Gaunda conglomerate by Hormann (1974) which is strongly cemented by calcareous material. Ghachok Formation is highly karstified not only because of its calcareous matrix but also because of its high amount of calcareous clast content. The karstic features were also observed in the lacustrine sediments.

Intense karstification resulted in the formation of sinkholes and subsidence. Locally the sinkholes

are called "Bhuanlos" or "Bahun". Conclusion drawn after the first phase of engineering geological study is that it is possible to delineate the area of sinkhole hazard in Pokhara. Foundation types can be suggested as a precautionary measure in the area prone to sinkhole hazards.

Landslide on the hill slopes are other type of hazard in Pokhara valley. Northern slope of Phewa Tal and the south-west facing slope of Kaon are mainly the high hazard area due to landsliding which need immediate attention.

Use of the result of engineering and environmental geological mapping under the Environmental Geology Project of Department of Mines and Geology can be helpful for hazard mitigation purpose in Pokhara valley.

## Application of Remote Sensing Data to Landslide Hazard Mapping in the Gosainkunda-Seopuri Area, Central Nepal

Nirendra D. Maske and Krishna M. Amatya  
Core Consultancy Pvt. Ltd.  
Kathmandu, Nepal

Remote sensing data supported by extensive geologic mapping indicates that landslide concentration is influenced by geologic structures, lithologic composition, topography

and to a minor extent human encroachment. Landslides are known to align major fault/shear zone and major lineaments are associated with active landslides.

## **Watershed Condition : A Tool for Hazard Mitigation**

**B. D. Shrestha**  
Dept. of Soil Conservation  
Kathmandu, Nepal

A reconnaissance inventory of watershed condition was made to know the watershed condition of the country. For this study the country was divided into 5 zones, 27 regions and 71 land systems.

The investigation showed that 82 percent of lands are in good condition, 14 percent are in fair condition and 3 percent are in poor to very poor condition.

Most man caused erosion in the hills is on

communally owned land or land of uncertain ownership. Each ecological zone has a unique set of environmental factors controlling its land use suitability, its sensitivity to erosion and the management practices required to maintain watershed stability. The Middle Mountain Zone is the site of most and caused erosion.

Based on the watershed condition of the districts, Dept. of Soil Conservation is providing its services in 42 districts of the country.

## **Projection on character and intensity of earthquake hazard within Kathmandu Basin due to different ground condition**

**M. R. Pandey and G. R. Chitrakar**  
National Seismological Centre  
Dept. of Mines and Geology  
Kathmandu, Nepal

Many cities located within intermontane basins have experienced very high seismic devastation even when the epicentre has been located a few hundred kilometres away. Mexico city (Michikano earthquake, 1985) and Kathmandu city (Bihar-Nepal earthquake, 1934) are the classical examples of high spectral acceleration induced due to adverse local sedimentary condition.

Recent studies on microtremor carried out in different parts of the world have clearly

demonstrated that the fundamental period of ground vibration could be assessed from the spectral characteristic of microtremor. Quantitative assessment of spectral amplification may also be carried out in specific geological condition.

We have mapped Kathmandu basin for fundamental period and spectral amplification based on results of microtremor survey. Some scenario of earthquake hazard could also be projected with these information.



## Assessment of Geological Hazards in Kulekhani Catchment Basin and Adopted Measures for their Mitigation

D. B. Thapa and G.S. Pokharel  
Nepal Electricity Authority  
Kathmandu, Nepal

The heavy downpour of 19-21 July 1993 caused an extensive damage to lives and property in the Kulekhani catchment. The highest number of people in the basin had been buried and killed during this event in the valley of Palung located on the western edge of the watershed. The downpour had the maximum recorded rainfall of 540 mm in 24 hours period at the recording station of Tistung; other stations of Kulekhani catchment basin recorded precipitation comparable to the figure in Tistung.

This event caused a great number of geodynamic process either to accelerate or to start a new. Among the most devastating processes had been the swelling of the rivers and rivulets by flooding water as well as debris of both the organic and inorganic origin. Sheet erosion, beside other

forms of erosions had been very intensive.

All the types of geodynamic processes caused a great amount of sediments to be transported and deposited in the Kulekhani Reservoir (Indra Sarovar). Similar process disrupted the electricity generating process in the Kulekhani Project by washing out the penstock pipe located just outside the basin.

NEA at present has been concentrating in the mitigation of the sedimentation processes caused by the accelerating geodynamic processes in the watershed. The first step has been the geological hazard mapping with related hydrological studies. Similarly, studies are being made on the quality and the texture of the sediment as well as on the ways to control the geodynamic hazard.

## Stone Mining Practice and Environmental Impact in the Dhading District, Bagmati Zone

P. R. Joshi and H. N. Ghimire  
Dept. of Mines and Geology  
Kathmandu, Nepal

About 3000 m<sup>3</sup> of stone and stone product in the form of blocks, boulder, cobble and crushed coarse aggregate enter the Kathmandu valley every day from different sources of the Dhading District as construction materials. The figure is about 75% of the total stone or stone products demand in the Kathmandu Valley.

Construction materials are mined either from the hill slope or from the river bed. The bed rock sources from the hill slope producing block stone contribute about 5% of the total production. Bulk of the construction material supplies (95%)

comes from the river bed in the form of boulder and cobble. Present construction material contribution of the Mahesh Khola is on the top position (90%) and will remain as potential source at least for a decade.

Post mining landslides and debris accumulation, devegetation and sedimentation are identified as the main environmental impact phenomenon due to mining on the hill slope. No significant environmental impact as the effect of river bed mining is apparent, except collapse and erosion of the banks in the high flood plains.

# Mines and Quarries in Kathmandu Valley and Their Environmental Impact

Kiran Karki, S. R. Maharjan and H. N. Ghimire  
Dept. of Mines and Geology  
Kathmandu, Nepal

There are about 75 legal small to very small scale sand, stone and gravel quarries in operation in Kathmandu valley. Except these there is high demand of mining licenses of these materials in several parts of the valley. Several illegal mining activities are also noticed mainly in Dakshinkali, Lele and Thankot areas.

There are two major quarries namely Himal Cement Company Limited (HCC) and Godawari Marble Industries Pvt. Ltd. (GMI) located inside Kathmandu valley.

## Godawari Marble Industry

At present GMI is much conscious about environment. The quarry is in operation under the supervision of concerned professionals like geologist, mining engineers and environmentalists. This Marble Industry has already prepared a mine plan and is working according to the plan. This industry is also trying to recover the damages caused in the past by the quarry under active supervision and guidelines/instructions provided by Dept. of Mines and Geology (DMG). Still lots of works for the conservation of mineral and environment are to be done by the industry.

## Himal Cement Company

This industry is always a subject of controversy because of its location. The deposit and factory site are located near Kirtipur town and Chovar Village. Dust pollution, noise pollution, sound/ground vibration, fly rocks problem due to blasting are the main causes of environmental issues of Chovar Village. This industry is also trying to overcome several environmental problems. Since the deposit and the factory

(Mining Industry) cannot be shifted in another location, the deposit area and factory area should be technically reviewed in detail including all mining elements and environment for the systematic mining and environment-friendly operations. This reviewed study will serve for the effective production and will cause minimum negative impact to the local habitants.

The full time involvement of mining engineers are found in Himal Cement Company, Hetanda Cement Industry and Udaipur Cement Industry. It is highly recommended that all mining industries, whether it is medium or small scale, should engage geologists and mining engineers on full time basis. But for very small scale industries part time involvement of geoscientists will be enough.

At present mining activities in Nepal is comparatively very few and occupy very small portion of land of the country. Of course, mining activities may create environmental problems if mining is carried out disregarding mining principles. The so called environmental problems created by mining activities are due to unawareness and even negligence of geological and mining principles. On the other hand the degradation of environment is caused by unsystematic and unplanned mining, quick profit earning tendency of people and aloofness towards the environmental responsibility.

The mining activities can be endeavoured harmonically with environment, by knowing the better knowledge of topogeology of the mine area and adopting appropriate methods of stripping/extraction of minerals with consideration of suitable rehabilitation method during mining and after mining.

# **Reduction of Flood Disaster Impact in Nepal: Problems and Solutions**

**T.P. Adhikary**  
Dept. of Mines and Geology  
Kathmandu, Nepal

Primarily heavy rainfall in the catchment of rivers and streams of Nepal having extremely dissected mountainous topography with high stream gradients triggers landslides, debris flows and generates floods causing bank erosion and inundations of vast expanse of lands downstream within a relatively short period of time.

A lot of people, forced to live and carry out economic activities on low lands due to population pressure on high lands are vulnerable along with their assets to flood hazard of certain

magnitude.

Flood hazard zonation and vulnerability analysis in major river/stream basins are basic things for preparedness and mitigation of the disaster.

Information required and problems in their regular acquisition are discussed.

Integrated approach in data acquisition and processing with the application of remote sensing technology and GIS is highlighted.

## **Water Quality of the Municipal Water Supply in Kathmandu Valley**

**Mohan Singh Khadka**  
Groundwater Utilization Division  
Irrigation Department, HMG of Nepal

There are, at present, five treatment plants and eight main service (distribution) reservoirs in operation. Facilities for sedimentation, filtration and disinfection are available in most of the treatment plants. Disinfection is the only facility available at the service reservoirs.

Quality of raw water from surface water sources varies tremendously at different seasons. In rainy season, turbidity value is very high. Generally water from surface sources are soft and aggressive. Groundwaters from limestone aquifers in southern part of the valley are good in quality and remains unchanged throughout the year.

Groundwater from other well fields contain iron, manganese and ammonia in higher concentration. Shallow well waters contain coliform bacteria in significant numbers.

In the distribution network, variation in water quality is very frequent specially with respect to residual chlorine and coliform bacteria. Factors affecting water quality are intermittent water supply system, sewerage pipes running close and parallel to water supply pipes, leakage points in transmission lines, groundwaters being used without major treatment and inefficiency in treatment works.



# Landslide Study : To Reduce Vulnerability

Binod Tiwari

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The topography of Nepal varies dramatically from the low lying areas of the Gangetic plain in the south to the higher Himalayas in the north within the very short horizontal distance of 90 to 120 Km. Due to rapid population growth, poverty, lack of education, deforestation and intensive agriculture practice, the cultivation in hill slopes greater than 30° is practised in general. Under such physical conditions, the vulnerability of the area has been increased due to slope instability specially in the form of landslide hazards. It has affected most of our development infrastructures in the hilly region such as road projects, hydel projects etc. Uptill now little attention has been considered in this aspect during the planning, designing and construction phases although, annually about 400-700 cu.m./Km. landslide occurred and at least about 50 people are killed.

Realizing these aspects Water Induced Disaster Prevention Technical Centre (WI/DPTC) was established on October 1991 under Ministry of Water Resources with the joint effort of His Majesty's Government of Nepal and Government of Japan. Since then the technical centre has been conducting the researches at several landslide zones in Nepal. To carry out detail investigations and proposed appropriate preventive measures three active landslide zones have been selected as model sites; at chainages

19+500 Km. and 49+200 Km. along Kathmandu-Trishuli Highway and on the right bank of Tinau river in the upper part of Butwal bazaar.

To monitor the landslide at these model sites detailed precise survey have been conducted and different types of monitoring devices have been installed. Readings are taken at regular intervals. At 19+500 Km. model sites several numbers of moving pegs have been established. Movement of these moving pegs with reference to four reference points have been measured regularly. Besides, two sets of extensometer along with rain gauge and inclinometer observation platform has been established. One 30 m. deep check boring has also been completed. The maximum displacement observed within the period of 14 month is 3.723 m. towards the south direction. Using these data some appropriate mitigative measures will be proposed in future.

To reduce the vulnerability of any development activities/projects in Nepal the landslide is a major factor. Hence, a detailed study on landslide and development of data base for future programmes and sound recommendation are necessary. In the future while planning and designing new projects landslides must be considered as a key parameter for the sustainability of the project.

# यस INTERNATIONAL DECADE FOR NATURAL DISASTER REDUCTION (IDNDR DAY 1994)

को सेमिनारमा सहभागीहरूबाट निम्न प्रस्ताव पारित भयो ।

## प्रस्ताव

दिशो राष्ट्रिय विकास, वातावरण संरक्षण एवं प्राकृतिक प्रकोप न्यूनीकरण सम्बन्धी कार्यहरू एक अर्का संग अन्तरसम्बन्धित भएको हुनाले,

हालै योकोहामा, जापानमा सम्पन्न प्राकृतिक प्रकोप न्यूनीकरण सम्बन्धी विश्व-सम्मेलनद्वारा जारी गरिएको योकोहामा रणनीति एवं कार्य योजनाले समेत यहि तथ्यलाई जोड दिएको हुनाले, तथा,

नेपालमा प्राकृतिक प्रकोप न्यूनीकरणका कार्यहरूमा संलग्न विभिन्न इकाईहरू बीच समन्वयको विस्तार एवं प्राकृतिक प्रकोप न्यूनीकरण सम्बन्धी नीति, कार्यक्रम र कार्य योजना निर्माण एवं कार्यान्वयनका लागि एक उच्चस्तरीय निकायको आवश्यकता महशुस गरिएकोले, यो सभा

१. प्राकृतिक प्रकोप न्यूनीकरण सम्बन्धी नीति, कार्यक्रम एवं कार्ययोजना निर्माण तथा समन्वय सम्बन्धी कार्यहरू गर्न गराउनका लागि जिम्मेवार संस्थाका रूपमा वर्तमान वातावरण संरक्षण परिषदलाई नै श्री ५ को सरकारबाट तोक्ने व्यवस्था गर्नका लागि अनुरोध गर्दछ ।

२. आधारभूत संरचना निर्माणका कारणबाट उत्पन्न हुने प्रकोपहरूको असर न्यूनीकरणका लागि प्रारम्भिक एवं विस्तृत प्राविधिक अध्ययनका क्रममा भौगर्भिक एवं वातावरणीय प्रकोप सम्बन्धी विस्तृत अध्ययनमा आधारित ठोस सुझावहरूको अवलम्बन गरेर मात्र त्यस्ता संरचनाहरू निर्माण गर्न र पहिले नै निर्माणभैसकेका महत्वपूर्ण संरचनाहरू ( जस्तै कुलेखानी जलविद्युत आयोजना, बागमती सिंचाई आयोजना, पर्वतीय राजमार्गहरू आदि) को पनि पुनः विस्तृत मूल्यांकन अध्ययन गरी सो अनुसार उपयुक्त बचाउ कार्यहरू गर्नु पर्ने ठहर गर्दछ ।

३. प्राकृतिक प्रकोप न्यूनीकरण प्रयासको सफलताको पूर्वाधार मुलुकको प्रयोगजन्य स्थलहरूको पहिचान गर्ने Hazard Mapping नै हुने भएकोले विभिन्न प्रकारका प्राकृतिक प्रकोपहरूको Hazard Map तयार गर्नका साथै त्यस्ता नक्साहरूको प्रकाशन एवं सर्वसुलभताका लागि श्री ५ को सरकारलाई अनुरोध गर्दछ ।

४. विकास निर्माणका स्थानीय योजनाहरूमा पनि प्राकृतिक प्रकोप न्यूनीकरण, वातावरण संरक्षण एवं संरचनाको दिशोपनाका लागि भूविज्ञानको अपरिहार्यतालाई ध्यानमा राख्दै अधिराज्यका सम्पूर्ण नगर पालिकाहरू तथा सबै जिल्ला विकास समितिका कार्यालयहरूमा भूविज्ञानिकको संलग्नताका लागि आवश्यक व्यवस्था गर्न श्री ५ को सरकारलाई अनुरोध गर्दछ ।

५. प्राकृतिक प्रकोप न्यूनीकरण सम्बन्धी सामान्य ज्ञान एवं चेतना जन स्तरसम्म पुर्‍याउनसके मात्र यसको व्यापक प्रतिफल प्राप्त गर्न सकिने हुनाले स्कूल, क्याम्पस, गाउँ विकास समिति, टोल, क्लव जस्ता इकाईसम्म नेपालमा आईपर्नसक्ने प्राकृतिक प्रकोप (भूकम्प, बाढी, पहिरो, हिमताल विस्फोटन बाढी, आधिबेरी, अनावृष्टि इत्यादि) कसरी कम गर्न सकिन्छ र भईहाले पनि कसरी सामना गर्न र बच्न सकिन्छ भन्ने बारेमा घुम्टि टोलीहरूद्वारा प्रवचन दिने व्यवस्था गर्न र त्यस्ता प्रकोपहरू न्यूनीकरणको उपायबारे सरल भाषामा पत्र / पुस्तिका / पोष्टर / श्रव्य दृष्यको माध्यमद्वारा प्रचार-प्रसार गर्नु पर्ने आवश्यकता महशुस गर्दै सम्बन्धित सबै संस्थाहरूलाई उपरोक्त कार्य गर्न गराउन आह्वान गर्दछ ।

## Participation in Seminars, Conferences and Workshops

Following members of the Nepal Geological Society participated in various seminars, conferences and workshops in different countries during the period of February 1994 to February 1995:

| Topic  | Participants    | Duration/Country                          |
|--|-----------------|---|
| Remote Sensing and Hydrology Training        | Mool, P. K.     | Jan.-Feb., 1994<br>Bangdung, Indonesia    |
| Landslide Hazard Mapping Seminar             | Shrestha, B. D. | March, 1994                               |
| Construction Materials                       | Aryal, B. R.    | June-July, 1994<br>Germany                |
| "  | Shrestha, V. B. | "   |
| "  | Karki, Kiran    | "   |
| Coal Production and Environmental Protection | Aryal, R. K.    | Oct. 3-28, 1994<br>Australia              |
| Regional Globe-SAR Workshop                  | Mool, P. K.     | Nov. 28-Dec. 2, 1994<br>Bangkok, Thailand |
| Training on use of ERDAS IMAGINE ver.8       | Mool, P. K.     | Jan.-Feb., 1995<br>Tokyo, Japan           |
| II South Asia Geological Congress GEOSAS-II  | Sharma, M. P.   | Feb.19-24, 1995<br>Sri Lanka              |
| "  | Kayastha, N. B. | "   |
| "  | Shrestha, P. L. | "   |
| "  | Joshi, P. R.    | "   |
| "  | Kaphle, K. P.   | "   |
| "  | Gautam, P.      | "   |
| "  | Sah, R. B.      | "   |
| "  | Kansakar D. R.  | "   |



## Completion of Master/Diploma/Training Programs

Nepal Geological Society extends hearty congratulations to the following members who have completed advanced studies and training courses in geological sciences in different countries and wishes them success in their professional career.

| Topic                                | Participants       | Duration/Country                |
|--------------------------------------|--------------------|---------------------------------|
| Remote Sensing                       | Pant, S. P.        | April 1994<br>Sweden            |
| Quaternary Geology                   | Madhikarmi, Dhruba | Sept. 1992-Oct. 1994<br>Belgium |
| Environmental<br>Geology             | Pant, T. R.        | Aug. 1993-Oct. 1994<br>Germany  |
| Petroleum Policy and<br>Management   | Shakya, T. R.      | Aug. - Sept., 1994<br>Norway    |
| PG Diploma in<br>Engineering Geology | Sikrikar, S. M.    | The Netherlands                 |

# BACKGROUND AND CURRENT STATUS OF MINERALS MINING IN NEPAL

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## BACKGROUND

Nepal is a mountainous country with more than 60% of the area covered by high rising mountains and hills. Though these mountains have given a majestic aesthetic value to the country, they have been a hindrance for the development works, mainly exploration and exploitation of mineral deposits.

The department of Mines & Geology, under the Ministry of Industry of HMG Nepal deals mainly with the geological activities, exploration of mineral deposits, mining administration and other geo-activities of the country.

The Department also issues prospecting and mining licenses to the companies and individuals, provides technical as well as non technical assistance to the lease holders and it also controls all the private mining activities as a whole.

## CURRENT MINING STATUS

The Department of Mines and Geology deals in issuing all the types of qualified, prospecting and mining operation licenses. The department also provides technical assistance as well as supervises and controls all the private mines.

At present (FY 1994/95) altogether 117 mining leases have been issued in Nepal from the department and out of which 62 are mining operation licenses and 55 are the prospecting licenses.

Gas project under DMG has estimated 300 mill cu.m. of gas from 14 drill holes in Kathmandu Valley. At present the project is exploiting 3 holes and gas from these holes is being supplied to Teku Hospital Complex (1000 cu. m. L.P.G. equivalent price Rs. 18,000 in terms of heat

value) free of cost as an experimental supply. Earlier the project used to supply gas to the Military Office, Veterinary Hospital, Ministry of Industry, Telecommunication Office etc.

Besides these some feasibility studies are being carried out from the side of private investors for the establishment of cement and marble industries in many parts of Nepal.

## GOVERNMENT POLICY FOR MINERAL DEVELOPMENT

For the promotion of mineral based industries and for attraction to the entrepreneurs, the charges for prospecting and mining leases are very nominal and the administrative process has been simplified. Provision of supplying equipment and machineries as well as laboratory facilities are also provided at no loss no profit basis. However, improvement of mining administration is needed to facilitate the entrepreneurs by opening Regional Offices.

In the present context, provision of collection of royalty on the basis of mineral commodity and production has been proposed.

## CONCLUSION

Nepal is gifted with many natural resources and mineral resource is one of these. If the existing mineral resource is evaluated and utilized properly, it will contribute much more for the development of the country. But till now these existing resources have not been widely explored and exploited because of lack of infrastructure and investment. However, few minerals are being exploited economically in different parts of the country in medium to small scales.

In term of production limestone (cement and chemical grade) dominates the mineral sector.

Table : 1

| S.No | Minerals                              | Licenses    |        | Major in                                   |
|------|---------------------------------------|-------------|--------|--|
|      |                                       | Prospecting | Mining |  |
| 1    | Coal (Sub-Bitum.)                     | 20          | 6      | Dang                                       |
| 2    | Lignite                               | -           | 25     | Kathmandu Valley                           |
| 3    | Magnesite                             | -           | 1      | Dolakha                                    |
| 4    | Lead & Zinc                           | -           | 1+1    | Rasuwa                                     |
| 5    | Copper                                | 1           | 1      | Solukhumbu                                 |
| 6    | Iron                                  | 1           | -      |  |
| 7    | Marble                                | 1           | 2      | Lalitpur<br>Kavre<br>Hetauda               |
| 8    | Limestone (cement grade) and Dolomite | 10          | 13     | Kathmandu<br>Hetauda<br>Udaipur<br>Dhading |
| 9    | Red Clay                              | -           | 3      | Kavre                                      |
| 10   | Talc                                  | 4           | 6      | Sindhupalchok<br>Syanja<br>Chitwan         |
| 11   | Salt                                  | -           | 1      | Mustang                                    |
| 12   | Quartz                                | 4           | 1      | Taplejung                                  |
| 13   | Beryl                                 | 4           | -      | Taplejung                                  |
| 14   | Corrundum                             | 3           | -      | Dhading                                    |
| 15   | Aquamarine                            | 2           | -      | Illam                                      |
| 16   | Tourmaline                            | 5           | 1      | Sankhuwasaba                               |
| 17   | Garnet                                | 1           | -      | Sankhuwasaba                               |

Other minerals which are exploited economically are Marble, Coal and Lignite, Talc, Salt, Red clay, Quartz, Tourmaline and ordinary construction oriented minerals.

As there are many large and medium sized cement grade limestone deposits in this country, it can export cement to third countries if these deposits are to be brought into commercial production.



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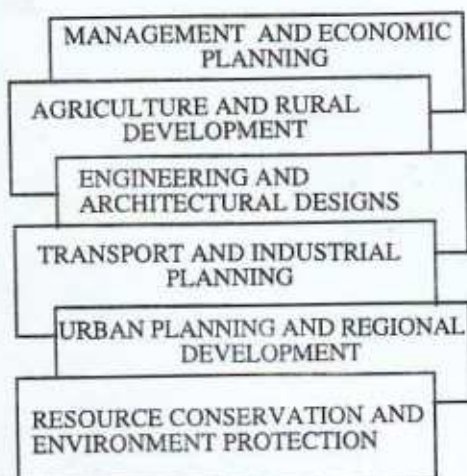
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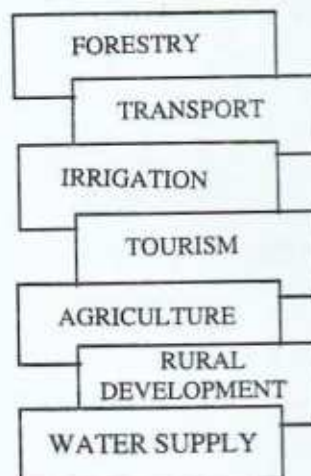
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